



SDMS DocID 559629

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\*ADMITTED IN NH & ME  
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January 24, 1991

United States Environmental Protection Agency  
Steven J. Calder, Remedial Project Manager  
P.O. Box 5988  
J.F. Kennedy Station  
Boston, Massachusetts 02214

Superfund Records Center  
SITE: Coakley  
BREAK: 11.9  
OTHER: 559629

RE: Second Request for Information Pursuant to Section 104 of  
CERCLA and Section 3007 of RCRA for the Coakley Landfill  
Site in North Hampton, New Hampshire

Dear Mr. Calder:

Please find enclosed herewith additional material safety data sheets on the hazardous and non-hazardous waste relative to Goss Lincoln Mercury. I had previously forwarded to you, on January 21, 1991, answers to your request for information relative to the above entitled matter and inadvertently failed to include the attached documentation.

If you have any questions, please do not hesitate to let me know.

Thank you.

Sincerely,

  
Thomas M. Keane

TMK/ctr  
Enclosures

cc: Goss Lincoln Mercury

# INTERNATIONAL HUMAN RIGHTS LAW A. HUMAN RIGHTS & STATE

## STATE RESPONSIBILITY

1. STATE RESPONSIBILITY: A state is responsible for the actions of its organs and officials acting in their official capacity. This includes the state's failure to prevent, investigate, and punish human rights violations.

2. STATE RESPONSIBILITY: A state is responsible for the actions of its organs and officials acting in their official capacity. This includes the state's failure to prevent, investigate, and punish human rights violations.

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10. STATE RESPONSIBILITY: A state is responsible for the actions of its organs and officials acting in their official capacity. This includes the state's failure to prevent, investigate, and punish human rights violations.

**Distributed  
by:**

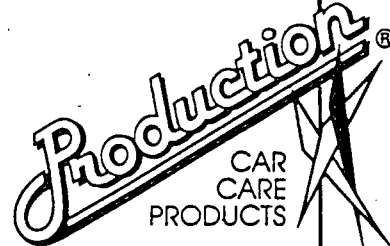
## **Production Products**

**Diers Enterprises**

**P.O. Box 5932**

**MANCHESTER, NEW HAMPSHIRE 03103**

**(603) 647-5900**



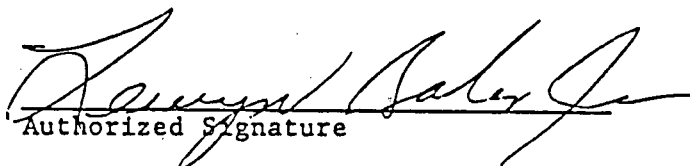
1000 E. Channel St.  
Stockton • CA 95205  
Local (209) 943-7337  
(209) 463-1600  
CA (800) 624-7086  
USA (800) 331-7364

## CERTIFICATION

PRODUCT NAME: SPOKE WHEEL CLEANER

PRODUCTION CHEMICAL MFG. INC. hereby certifies  
that all surfactants and related chemical  
constituants are BIODEGRADABLE.

This certification assures buyer that all  
manufacturer procedures, laboratory analysis  
and processing standards are in compliance  
with City, State and Federal regulations.

  
Authorized Signature

5-23-88  
Date

# Material Safety Data Sheet

May be used to comply with  
 OSHA's Hazard Communication Standard,  
 29 CFR 1910.1200. Standard must be  
 consulted for specific requirements.

## U.S. Department of Labor

Occupational Safety and Health Administration  
 (Non-Mandatory Form)  
 Form Approved  
 OMB No. 1218-0072



IDENTITY (As Used on Label and List)

SPOKE WHEEL CLEANER & BRIGHTNER (HD)

Notes: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

### Section I

Manufacturer's Name

PRODUCTION CHEMICAL MFG., INC.

Emergency Telephone Number

(209) 943-7337

Address (Number, Street, City, State, and ZIP Code)

1000 E. Channel Street

Telephone Number for Information

(209) 943-7337

Date Prepared

February 18, 1987

Stockton, CA 95205

Signature of Preparer (optional)

N/A

### Section II — Hazardous Ingredients/Identity Information

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL | ACGIH TLV - C* | Other Limits Recommended | % (option) |
|---|----------|----------------|--------------------------|------------|
| Hydrofluoric Acid;  | 3.0 ppm  | 3.0 ppm        | MAX 3.0 ppm              |            |
| Aqueous HF; HF 70%;   | OR       | OR             |                          |            |
| Hydrofluoric Acid 70%.  | 2.5mg/M3 | 2.5mg/M3       |                          |            |
| Hydrogen fluoride.  |          |                |                          |            |

CAS# 7664-39-3, as F.

\*TLV-C: The concentration of hazardous ingredient that should not be exceeded during any part of the working exposure.

### Section III — Physical/Chemical Characteristics

|                         |         |     |   |       |
|-------------------------|---------|-----|---|-------|
| Boiling Point           | Unknown | U/K | Specific Gravity (H <sub>2</sub> O = 1) | 1.062 |
| Vapor Pressure (mm Hg.) |         | U/K | Melting Point                           | U/K   |
| Vapor Density (AIR = 1) |         | U/K | Evaporation Rate (Butyl Acetate = 1)    | U/K   |

Solubility in Water

Product is soluble in water

Appearance and Odor

Product is a thin liquid, orange/brown color, with strong acidic odor.

### Section IV — Fire and Explosion Hazard Data

|                           |      |                  |     |     |     |     |     |
|---------------------------|------|------------------|-----|-----|-----|-----|-----|
| Flash Point (Method Used) | None | Flammable Limits | N/A | LEL | N/A | UEL | N/A |
|---------------------------|------|------------------|-----|-----|-----|-----|-----|

Extinguishing Media

Foam, Carbon Dioxide, Dry Chemical, Water mist (on non-leaking containers)

Special Fire Fighting Procedures

Wear self-contained breathing apparatus approved by NIOSH and full protective clothing. Cool non-leaking containers by water spray.

Unusual Fire and Explosion Hazards

Product will react with certain metals to produce potentially explosive hydrogen gas. Generated heat may explode metal container. Product reacts violently with water.

# MATERIAL SAFETY DATA SHEET

**PREPARATION / REVISION DATE**

February 13, 1987

## SECTION I

**DEATH OF A KING**

PRODUCTION CHEMICAL MFG., INC

**EMERGENCY TELEPHONE NO.**

(209) 943-7337

As the October, Street, City, and St. Louis

1000 E. Channel Street, Stockton, CA 95205

**WCA WCA**

N/A mixture

### COMMON NAME

## Phase II Wax Creme

## LOCAL FAMILY

## Polishes

### FORMULA

N/A

## SECTION II HAZARDOUS INGREDIENTS

[illegible]

### CARCINOGENIC INGREDIENTS

| CHEMICAL AND COMMON NAME    | %   | REFERENCE SOURCE |      |      |
|-----------------------------|-----|------------------|------|------|
|                             |     | NTP              | IARC | OSHA |
| Product is not carcinogenic | N/A | X                | X    | X    |
|                             |     |                  |      |      |
|                             |     |                  |      |      |
|                             |     |                  |      |      |
|                             |     |                  |      |      |

# Material Safety Data Sheet

The information and data contained herein are believed to be correct. However, Viking Mfg. Co. does not warrant either expressly or by implication the accuracy thereof.

Date last revised 9/1/88

Prepared by Walter Zwible

## I. General Information

|   |   |
|---|---|
| Chemical Name & Synonyms<br><u>Blends</u>                             | Trade Name & Synonyms<br><u>Vinyl Top Re-New-er VCM</u> |
| Chemical Family<br><u>Alcohol, Solvent, Silicone</u>                  | Formula<br><u>Blend</u>                                 |
| Proper DOT Shipping Name  | DOT Hazard Classification                               |
| Manufacturer<br><u>VIKING MFG. CO.</u>                                | Manufacturer's Phone Number<br><u>(508)653-0940</u>     |
| Manufacturer's Address<br><u>68 Middlesex Ave., Natick, MA. 01760</u> | Chemtrec Phone Number<br><u>1-800-424-9300</u>          |

## II. Ingredients

| Principal Hazardous Components | Percent   | Threshold Limit Value (units) |
|--------------------------------|-----------|-------------------------------|
| <u>Petroleum Distillate</u>    | <u>30</u> |                               |
| <u>CAS# 64742-47-8</u>         |           |                               |
| <u>Isopropyl Alcohol</u>       | <u>50</u> |                               |
| <u>CAS# 67-63-0</u>            |           |                               |
|                                |           |                               |
|                                |           |                               |
|                                |           |                               |

## III. Physical Data

|  |  |
|--|--|
| Boiling Point (°F)<br><u>212°F</u>                         | Specific Gravity (H <sub>2</sub> O = 1)<br><u>1</u>                |
| Vapor Pressure (mm Hg.)<br><u>NA</u>                       | Percent Volatile By Volume (%)<br><u>84%</u>                       |
| Vapor Density (Air = 1)<br><u>NA</u>                       | Evaporation Rate ( <u>      </u> = 1)<br>(Butyl Ace.) <u>&lt;1</u> |
| Solubility in Water<br><u>complete</u>                     | pH   |
| Appearance & Odor<br><u>Blue liquid with perfume odor.</u> |  |

## IV. Fire & Explosion Hazard Data

|                                  |  |  |                           |
|----------------------------------|--|--|---------------------------|
| Flash Point (Test Method)        | combustible  |  | Auto Ignition Temperature |
| Flammable Limits                 | LEL  |  | UEL                       |
| Extinguishing Media              | Water, dry foam                                    |  |                           |
| Special Fire Fighting Procedures | None   |  |                           |
| Unusual Fire & Explosion Hazards | Keep surrounding containers cool with water spray. |  |                           |

# Material Safety Data Sheet

May be used to comply with  
OSHA's Hazard Communication Standard,  
29 CFR 1910.1200. Standard must be  
consulted for specific requirements.

## U.S. Department of Labor

Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072



IDENTITY (As Used on Label and List)  
FALLOUT REMOVER

Note: Blank spaces are not permitted. If any item is not applicable, or no  
information is available, the space must be marked to indicate that

### Section I

|   |  |
|---|--|
| Manufacturer's Name<br>PRODUCTION CHEMICAL MFG., INC.                         | Emergency Telephone Number<br>(209) 943-7337       |
| Address (Number, Street, City, State, and ZIP Code)<br>1000 E. Channel Street | Telephone Number for Information<br>(209) 943-7337 |
| Stockton, CA 95205  | Date Prepared<br>February 18, 1987                 |
|   | Signature of Preparer (optional)<br>N/A            |

### Section II — Hazardous Ingredients/Identity Information

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL             | ACGIH TLV - C*       | Other Limits<br>Recommended | % (opt) |
|---|----------------------|----------------------|-----------------------------|---------|
| Hydrofluoric Acid;  | 3.0 ppm              | 3.0 ppm              | MAX<br>3.0 ppm              |         |
| Aqueous HF; HF 70%;   | OR                   | OR                   |                             |         |
| Hydrofluoric Acid 70%.  | 2.5mg/M <sup>3</sup> | 2.5mg/M <sup>3</sup> |                             |         |
| Hydrogen fluoride.  |                      |                      |                             |         |

CAS# 7664-39-3, as F.

\*TLV-C: The concentration of hazardous ingredient that should not be  
exceeded during any part of the working exposure.

### Section III — Physical/Chemical Characteristics

|                          |     |   |       |
|--------------------------|-----|---|-------|
| Boiling Point<br>Unknown | U/K | Specific Gravity (H <sub>2</sub> O = 1) | 1.036 |
| Vapor Pressure (mm Hg.)  | U/K | Melting Point                           | U/K   |
| Vapor Density (AIR = 1)  | U/K | Evaporation Rate<br>(Butyl Acetate = 1) | U/K   |

Solubility in Water

Product is soluble in water

Appearance and Odor

Product is a thin liquid, color, purple/black with vinger-acidic odor.

### Section IV — Fire and Explosion Hazard Data

|                                   |                         |            |            |
|-----------------------------------|-------------------------|------------|------------|
| Flash Point (Method Used)<br>None | Flammable Limits<br>N/A | LEL<br>N/A | UEL<br>N/A |
|-----------------------------------|-------------------------|------------|------------|

Extinguishing Media

Foam, Carbon Dioxide, Dry Chemical, Water mist (on non-leaking container)

Special Fire Fighting Procedures

Wear self-contained breathing apparatus approved by NIOSH and full pro-  
tective clothing. Cool non-leaking containers by water spray.

Unusual Fire and Explosion Hazards

Product will react with certain metals to produce potentially explosive  
hydrogen gas. Generated heat may explode metal container. Product react  
violently with water.



**Section V — Reactivity Data**

|           |          |   |                     |
|-----------|----------|---|---------------------|
| Stability | Unstable |   | Conditions to Avoid |
|           | Stable   | X |                     |

Incompatibility (Materials to Avoid) Glass, concrete, carbonates, sulfides, cyanides, alkalis, common metals, leather, rubber, and many organics

Hazardous Decomposition or Byproducts

Product will boil away as Hydrogen Fluoride gas and water.

|                          |                |   |                     |
|--------------------------|----------------|---|---------------------|
| Hazardous Polymerization | May Occur      |   | Conditions to Avoid |
|                          | Will Not Occur | X |                     |

**Section VI — Health Hazard Data**

Route(s) of Entry: several Inhalation? Yes Skin? Yes Ingestion? Yes

Health Hazards (Acute and Chronic)

See page 3

Carcinogenicity: No NTP? N/A IARC Monographs? N/A OSHA Regulated? N/A

Signs and Symptoms of Exposure

Irritation and burns to: mouth, throat, lungs, stomach, cornea and skin. Impaired lung and kidney functions, hypocalcemia.

Medical Conditions

Generally Aggravated by Exposure

Nothing specific

Emergency and First Aid Procedures

See page 3 and 4.

**Section VII — Precautions for Safe Handling and Use**

Steps to Be Taken in Case Material Is Released or Spilled

Wear full protective clothing. Provide ventilation. Contain spill. Carefully dilute spill with a large amount of water. Neutralize with alkali such as soda ash or lime. Flush residue.

Waste Disposal Method

Haul neutralized waste to landfill site. Follow Local, State and Federal Regulation. Check with your County's Environmental Health about spill.

Precautions to Be Taken in Handling and Storing

Product is dangerous and poisonous. Store in approved containers only Plastic is OK) in cool ventilated location. Keep tight lids on containers.

Other Precautions

Do not breathe product vapors. Use with adequate ventilation. Avoid contact with body. Do not add water to product for dilution. Keep away from children

**Section VIII — Control Measures**

Respiratory Protection (Specify Type)

|             |                                 |   |
|-------------|---------------------------------|---|
| Ventilation | Local Exhaust                   | Special   |
|             | OK if acid vapors are below TLV |   |
|             | Mechanical (General)            | Other   |
|             | Preferred                       | NIOSH respirator for HF                                       |
|             |                                 | some exposure requires self-contained or pressure respirator. |

Protective Gloves

Impervious to acid gloves

Eye Protection

Chem. safety goggles with plastic lens.

Other Protective Clothing or Equipment

Hard hat, full-face plastic shield, acid resistant clothing. No contact lens

Work/Hygienic Practices

No eating, drinking or smoking or careless actions on the work site.

# Material Safety Data Sheet

May be used to comply with  
OSHA's Hazard Communication Standard,  
29 CFR 1910.1200. Standard must be  
consulted for specific requirements.

## U.S. Department of Labor

Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072



IDENTITY (As Used on Label and List)  
VINYL TOP DRESSING-SOLVENT BASE

Note: Blank spaces are not permitted. If any item is not applicable, or no  
information is available, the space must be marked to indicate that.

### Section I

Manufacturer's Name  
PRODUCTION CHEMICAL MFG., INC.

Emergency Telephone Number  
(209) 943-7337

Address (Number, Street, City, State, and ZIP Code)  
1000 E. CHANNEL STREET

Telephone Number for Information  
(209) 943-7337

STOCKTON, CA 95205

Date Prepared  
February 6, 1987

Signature of Preparer (optional)  
N/A

### Section II — Hazardous Ingredients/Identity Information

| Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL              | ACGIH TLV              | Other Limits Recommended | % (option) |
|---|-----------------------|------------------------|--------------------------|------------|
| VM & P Naphtha  | 500ppm                | 300ppm                 | None                     | N/A        |
| Aliphatic Petroleum Distillates                                   | OR                    | OR                     |                          |            |
| CAS # 8032-32-4   | 2000mg/M <sup>3</sup> | 1,350mg/M <sup>3</sup> | None                     |            |

### Section III — Physical/Chemical Characteristics

|                                    |  |
|------------------------------------|--|
| Boiling Point<br>Unknown           | Specific Gravity (H <sub>2</sub> O = 1)<br>0.824 |
| Vapor Pressure (mm Hg.)<br>Unknown | Melting Point<br>Unknown                         |
| Vapor Density (AIR = 1)<br>N/A     | Evaporation Rate<br>(Butyl Acetate = 1) Unknown  |

Solubility in Water  
Not soluble

Appearance and Odor

Thin clear liquid, brown in color, with almond-like odor.

### Section IV — Fire and Explosion Hazard Data

|  |                               |            |            |
|--|-------------------------------|------------|------------|
| Flash Point (Method Used)<br>125°F Minimum (TCC) | Flammable Limits<br>Not Known | LEL<br>N/K | UEL<br>N/K |
|--|-------------------------------|------------|------------|

Extinguishing Media

Regular Foam, Carbon Dioxide or Dry Chemical.

Special Fire Fighting Procedures

Self-contained breathing apparatus with a full face piece operated in  
pressure-demand or any other positive pressure mask.

Unusual Fire and Explosion Hazards

Vapors are heavier than air, may travel on ground surface to an ignition  
source. No cutting or welding on or near container, residue may ignite.

# MATERIAL SAFETY DATA SHE

PREPARATION/REVISION DATE  
February 13, 1987

## SECTION I

IDENTIFICATION NAME

PRODUCTION CHEMICAL MFG., INC

EMERGENCY TELEPHONE NO.

(209) 943-7337

Address (Number, Street, City, and ZIP Code)

1000 E. Channel Street, Stockton, CA 95205

LOCAL NAME

N/A Mixture

COMMON NAME

Reviver

LOCAL FAMILY

Polishes

FORMULA

N/A

## SECTION II HAZARDOUS INGREDIENTS

| CHEMICAL AND COMMON NAME         | %   | PEL - APPLICABLE EXPOSURE LIMITS |                         |       |
|----------------------------------|-----|----------------------------------|-------------------------|-------|
|                                  |     | OSHA                             | TLV-ACGIH               | OTHER |
| VM&P Naphtha; Aliphatic          | N/A | 500 ppm                          | 300 ppm                 | N/A   |
| Petroleum Distillates            |     | OR                               | OR                      |       |
| CAS# 8032-32-4                   |     | 2000 mg/M <sup>3</sup>           | 1,350 mg/M <sup>3</sup> |       |
|                                  |     |                                  | (TLV-TWA)               |       |
| Flux Calcind Diatomaceous Earth; |     |                                  |                         |       |
| Superfloss. CAS# 68855-54-9      |     |                                  |                         |       |
| Containing 60% of Crystalline    |     |                                  |                         |       |
| Silica (Cristobalite)            |     | 0.08 mg/M <sup>3</sup>           | 0.05 mg/M <sup>3</sup>  |       |
| CAS# 14464-46-1                  |     | (Respirable Dust)                |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |
|                                  |     |                                  |                         |       |

## CARCINOGENIC INGREDIENTS

| CHEMICAL AND COMMON NAME    | %   | REFERENCE SOURCE |      |      |
|-----------------------------|-----|------------------|------|------|
|                             |     | NTP              | IARC | OSHA |
| Product is not carcinogenic | N/A | X                | X    | X    |
|                             |     |                  |      |      |
|                             |     |                  |      |      |
|                             |     |                  |      |      |

**Material Safety Data Sheet**  
May be used to comply with  
OSHA's Hazard Communication Standard,  
29 CFR 1910.1200. Standard must be  
consulted for specific requirements.

**U.S. Department of Labor**  
Occupational Safety and Health Administration  
(Non-Mandatory Form)  
Form Approved  
OMB No. 1218-0072



IDENTITY (As Used on Label and List)  
**TKO-PROFESSIONAL PROTECTANT**

Note: Blank spaces are not permitted. If any item is not applicable, or no  
information is available, the space must be marked to indicate that

**Section I**

|  |   |
|--|---|
| Manufacturer's Name<br><b>Production Chemical Mfg., Inc</b>                          | Emergency Telephone Number<br><b>(209) 943-7337</b>       |
| Address (Number, Street, City, State, and ZIP Code)<br><b>1000 E. Channel Street</b> | Telephone Number for Information<br><b>(209) 943-7337</b> |
| <b>Stockton, CA 95205</b>  | Date Prepared<br><b>February 16, 1987</b>                 |
|  | Signature of Preparer (optional)<br><b>N/A</b>            |

**Section II — Hazardous Ingredients/Identity Information**

| Hazardous Components (Specific Chemical Identity, Common Name(s)) | OSHA PEL | ACGIH TLV | Other Limits Recommended | % (opt) |
|---|----------|-----------|--------------------------|---------|
| None  | N/A      | N/A       | N/A                      | N/A     |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |
|   |          |           |                          |         |

**Section III — Physical/Chemical Characteristics**

|                                 |     |   |       |
|---------------------------------|-----|---|-------|
| Boiling Point<br><b>Unknown</b> | U/K | Specific Gravity (H <sub>2</sub> O = 1) | 0.995 |
| Vapor Pressure (mm Hg.)         | U/K | Melting Point                           | U/K   |
| Vapor Density (AIR = 1)         | U/K | Evaporation Rate<br>(Butyl Acetate = 1) | U/K   |

Solubility in Water  
**Product is soluable in water.**

Appearance and Odor  
**The product is a thin liquid, white in color, with almond-like scent.**

**Section IV — Fire and Explosion Hazard Data**

|   |                                      |                   |                   |
|---|--------------------------------------|-------------------|-------------------|
| Flash Point (Method Used)<br><b>N/D (TCC)</b>                           | Flammable Limits<br><b>Not known</b> | LEL<br><b>N/K</b> | UEL<br><b>N/K</b> |
| Extinguishing Media<br><b>Fog, Foam, Carbon Dioxide or Dry Chemical</b> |                                      |                   |                   |
| Special Fire Fighting Procedures<br><b>None</b>                         |                                      |                   |                   |

Unusual Fire and Explosion Hazards  
**None. Material will not support combustion unless it is too hot.**



## MATERIAL SAFETY DATA SHEET

### SECTION I. IDENTITY

|  |   |
|--|---|
| Identity (As Used on Label and List):<br>Paint Conditioner | Emergency Telephone Number:<br>209/943-7337 U.S.A. 800/331-7364 |
| Manufacturer's Name:<br>Production Chemical Mfg. Co., Inc. | Telephone Number for Information:<br>209/943-7337               |
| Address:<br>1000 East Channel Street                       | Date Prepared:<br>5-1-89  |
| City - State - ZIP:<br>Stockton, CA 95205                  | Prepared by:<br>Lewyn Boler, Jr.                                |

### SECTION II. HAZARDOUS INGREDIENTS

| Hazardous Components: Specific Chemical Common Name(s) | OSHA PEL                                | ACGIH TLV                              | Other Limits Recommended | % (Optional) |
|--|---|--|--------------------------|--------------|
| Petroleum Distillates<br>CAS #8032-32-4                | OR<br>2000mg/m <sup>3</sup>             | OR<br>1350mg/m <sup>3</sup><br>TLV-TWA | N/A                      |              |
| Diatomaceous Earth<br>CAS #68855-54-9                  |   |  |                          |              |
| Silica (Cristobalite)<br>CAS #14464-46-1               | 0.08mb/m <sup>3</sup><br>Resirable Dust | 0.5mg/m <sup>3</sup>                   |                          |              |

### SECTION III. PHYSICAL CHARACTERISTICS

|   |         |   |     |
|---|---------|---|-----|
| Boiling Point:  | N/D     | Specific Gravity:<br>(H2O-1)            | .96 |
| Vapor Pressure (mm Hg.):  | N/D     | pH:                                     | 9.0 |
| Vapor Denisty:  | N/D     | Evaporation Rate:<br>(Butyl Acetate =1) | N/D |
| Solubility in Water:  | Dilutes | Melting Point:                          | N/D |
| Appearance and Odor: Thick Brownish Beige-Like — Pleasant Scent |         |   |     |

### SECTION IV. FIRE AND EXPLOSION HAZARD DATA

|  |                                      |                                |     |     |
|--|--------------------------------------|--------------------------------|-----|-----|
| Flash Point:<br>(Method Used)<br>125°F min (TCC)                 | Auto Ignition<br>Temperature:<br>N/K | Flammability<br>Limits:<br>N/K | LEL | UEL |
| Extinguishing Media: Water, Regular Foam                         |                                      |                                |     |     |
| Fire Fighting Procedures: Use self-contained breathing apparatus |                                      |                                |     |     |
| Unusual Fire and<br>Explosion Hazards: Vapor may travel          |                                      |                                |     |     |

Continued On The Other Side

U.S. DEPARTMENT OF LABOR  
Occupational Safety and Health Administration

Form Approved  
OMB No. 34-R1387

Rev. 3/16/83

# MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

|   |  |   |
|---|--|---|
| MANUFACTURER'S NAME<br>SAFETY-KLEEN CORPORATION   |  | EMERGENCY TELEPHONE NO.<br>(312)697-8460                    |
| ADDRESS (Number, Street, City, State, and ZIP Code)<br>655 Big Timber Road, Elgin, IL 60120 |  |   |
| CHEMICAL NAME AND SYNONYMS<br>ORGANIC SOLVENTS  |  | TRADE NAME AND SYNONYMS<br>IMMERSION CLEANER & CARBURETOR & |
| CHEMICAL FAMILY   |  | FORMULA COLD PARTS CLEANER #609 P/N 6631                    |

## SECTION II - HAZARDOUS INGREDIENTS

| PAINTS, PRESERVATIVES, & SOLVENTS                                  | % | TLV (Units) | SOLVENTS                                    | %    | TLV (Units) |
|--|---|-------------|---|------|-------------|
|  |   |             | CRESYLIC ACIDS                              | 11.9 | 5 ppm (sk)  |
| NON-AQUEOUS PHASE----->  |   |             | SODIUM SOAP OF TALL OIL                     | 7.5  | --          |
|  |   |             | CHLORINATED SOLVENT (Methylene Chloride)    | 31.9 | 200ppm      |
|  |   |             | CHLORINATED SOLVENT (Ortho-dichlorobenzene) | 31.5 | 50ppm       |
| AQUEOUS PHASE----->  |   |             | Additives: COMPLEX AMINES                   | 0.4  | --          |
|  |   |             | WATER                                       | 16.7 | --          |
| HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES              |   |             |   | %    | TLV Units   |
| NOTE: THIS PRODUCT IS A "TWO-PHASE" SYSTEM--CONSISTING OF AN UPPER |   |             |   |      |             |
| MODERATELY ALKALINE AQUEOUS (WATER) LAYER (20 vol%) AND A          |   |             |   |      |             |
| LOWER NON-AQUEOUS (SOLVENT) LAYER (80 vol%)                        |   |             |   |      |             |

## SECTION III - PHYSICAL DATA

|                         |   |                                       |        |
|-------------------------|---|---------------------------------------|--------|
| BOILING POINT (°F.)     | 102-395°F   | SPECIFIC GRAVITY (H <sub>2</sub> O=1) | 1.1900 |
| VAPOR PRESSURE (mm Hg.) | WATER   | PERCENT VOLATILE BY VOLUME (%)        | 80%    |
| VAPOR DENSITY (AIR=1)   | WATER   | EVAPORATION RATE (_____=1)            |        |
| SOLUBILITY IN WATER     | MISCIBLE IN ALL PROPORTIONS   |                                       |        |
| APPEARANCE AND ODOR     | CLEAR, DARK, AMBER LIQUIDS-AEROMATIC ODOR-TWO-PHASE LIQUID SYSTEM (TWO DISTINCT PHASES OR LAYERS) |                                       |        |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

|  |               |                  |      |     |     |
|--|---------------|------------------|------|-----|-----|
| FLASH POINT (Method used)  | NON-FLAMMABLE | FLAMMABLE LIMITS | N.A. | Lel | Uel |
| EXTINGUISHING MEDIA  | N.A.          |                  |      |     |     |
| SPECIAL FIRE FIGHTING PROCEDURES   |               |                  |      |     |     |
| ALTHOUGH PRODUCT IS NON-FLAMMABLE, OPEN FLAMES, WELDING ARCS, OR OTHER HIGH TEMPERATURE SOURCES CAN CAUSE PRODUCT DECOMPOSITION. THIS COMPOSITION CAN YIELD HYDROGEN CHLORIDE AND/OR PHOSGENE. |               |                  |      |     |     |
| UNUSUAL FIRE AND EXPLOSION HAZARDS   |               |                  |      |     |     |

**Threshold Limit Value****SECTION V - HEALTH HAZARD DATA**

20 ppm. THIS REFERS TO THE SOLVENT PORTION ONLY. THE SOLVENT PORTION IS BLANKETED WITH A MILDLY ALKALINE WATER LAYER WHICH SERVES AS AN EVAPORATION RETARDER & MINIMIZES FUMES AND VAPORS FROM THE SOLVENT PORTION.

**EFFECTS OF OVEREXPOSURE**

SEVERE EYE IRRITATION -- "BURNING OF SKIN" -- EXCESSIVE INHALATION CAUSES HEADACHE, DIZZINESS AND NAUSEA.

**EMERGENCY AND FIRST AID PROCEDURES**

EYE CONTACT: FLUSH WITH COPIOUS AMOUNTS OF WATER AND CALL A PHYSICIAN.

SKIN CONTACT: WASH WITH MILD SOAP AND WATER AND/OR BAKING SODA WATER, THEN APPLY SKIN CREAM.

INHALATION: REMOVE TO FRESH AIR AND CALL A PHYSICIAN: APPLY ARTIFICIAL RESPIRATION IF NECESSARY IN EXTREME CASES. IF INGESTED, ADMINISTER PLAIN WATER: DO NOT INDUCE VOMITING -- CALL A PHYSICIAN.

**SECTION VI - REACTIVITY DATA**

|  |                |   |
|--|----------------|---|
| STABILITY  | UNSTABLE       | CONDITIONS TO AVOID                         |
|  | STABLE         | AVOID SMOKE FROM ANY COMBUSTION OF PRODUCT. |
| INCOMPATIBILITY <i>Materials to avoid:</i>   |                |   |
| HAZARDOUS DECOMPOSITION PRODUCTS   |                |   |
| NORMALLY NONE--HOWEVER, INCOMPLETE BURNING MAY YIELD CARBON MONOXIDE. IN ADDITION, OPEN DECOMPOSITION CAN YIELD HYDROGEN CHLORIDE AND/OR PHOSGENE. |                |   |
| HAZARDOUS POLYMERIZATION   | WILL NOT OCCUR | X   |

**SECTION VII - SPILL OR LEAK PROCEDURES**

|  |
|--|
| STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED  |
| ABSORB SPILL WITH SAWDUST OR OIL ABSORBENT OR SODA ASH. CATCH AND COLLECT FOR RECOVERY AS SOON AS POSSIBLE. FURTHER FLUSHING AND CLEANING WITH A WEAK ALKALINE SOLUTION (SODA ASH, BAKING SODA, CAUSTIC SODA) WILL AID IN NEUTRALIZING CRESYLIC ACID FROM THE SPILL. |
| WASTE DISPOSAL METHOD  |
| DISPOSE OF IN ACCORDANCE WITH COMPANY OR LOCAL, STATE AND FEDERAL REGULATIONS.   |


**SECTION VIII - SPECIAL PROTECTION INFORMATION**

|   |  |
|---|--|
| RESPIRATORY PROTECTION <i>Specify type:</i>                                   |  |
| SELF-CONTAINED BREATHING APPARATUS FOR CONCENTRATIONS ABOVE TLV LIMITS.       |  |
| VENTILATION   | LOCAL EXHAUST YES SPECIAL                                  |
|   | MECHANICAL <i>(General)</i> OTHER                          |
| PROTECTIVE GLOVES   | RUBBER GLOVES EYE PROTECTION CHEMICAL FACE SHIELD: GOGGLES |
| OTHER PROTECTIVE EQUIPMENT  |  |
| RUBBER APRON TO PROTECT SKIN AND CLOTHING. USE PROTECTIVE BARRIER SKIN CREAM. |  |

**SECTION IX - SPECIAL PRECAUTIONS**

|  |
|--|
| PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING  |
| KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. USE ADEQUATE VENTILATION. AVOID CONTACT WITH SKIN AND EYES. DO NOT INGEST.   |
| OTHER PRECAUTIONS  |
| IF CLEANER CONTACTS CLOTHING, CHANGE CLOTHES OR WASH OFF EXCESS IMMEDIATELY TO AVOID POSSIBLE SKIN IRRITATION. ALTHOUGH PRODUCT IS NON-FLAMMABLE, OPEN FLAMES, WELDING ARCS OR OTHER HIGH TEMPERATURE SOURCES CAN CAUSE PRODUCT DECOMPOSITION. THIS DECOMPOSITION CAN YIELD HYDROGEN CHLORIDE AND/OR PHOSGENE. |

U.S. DEPARTMENT OF LABOR  
Occupational Safety and Health Administration

Form Approved   
OMB No. 44-R1387  
Revised 6-25-81

# MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

## SECTION I

|   |                                  |   |
|---|----------------------------------|---|
| MANUFACTURER'S NAME<br><b>SAFETY-KLEEN CORP.</b>  |                                  | EMERGENCY TELEPHONE NO.<br><b>(312) 697-8460</b>              |
| ADDRESS (Number, Street, City, State, and ZIP Code)<br><b>655 BIG TIMBER ROAD, ELGIN, IL. 60120</b> |                                  |   |
| CHEMICAL NAME AND SYNONYMS<br><b>MINERAL SPIRITS</b>  |                                  | TRADE NAME AND SYNONYMS<br><b>SAFETY-KLEEN 105 SOLVENT-MS</b> |
| CHEMICAL FAMILY<br><b>PETROLEUM HYDROCARBON FRACTION</b>  | FORMULA<br><b>S-K PART #6617</b> |   |

## SECTION II - HAZARDOUS INGREDIENTS

| PAINTS, PRESERVATIVES, & SOLVENTS  | %                    | TLV (Units) | ALLOYS AND METALLIC COATINGS           | %   | TLV (Units) |
|--|----------------------|-------------|--|-----|-------------|
| PIGMENTS   |                      |             | BASE METAL                             |     |             |
| CATALYST   |                      |             | ALLOYS                                 |     |             |
| VEHICLE  |                      |             | METALLIC COATINGS                      |     |             |
| SOLVENTS   | 99.9+%               | 100 100*    | FILLER METAL PLUS COATING OR CORE FLUX |     |             |
| ADDITIVES  | Dye                  | 1003 100    | OTHERS                                 |     |             |
| OTHERS   | Anti-Static Additive | 1ppm        |  |     |             |
| HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES                                      |                      |             |  | %   | TLV (Units) |
| GENERALLY CLASSIFIED AS "RELATIVELY NON-TOXIC"   |                      |             |  | 100 | 100*        |
| EVEN THOUGH EXPOSURE MAY BE PROLONGED, IRRITATIONS ARE MILD OR MODERATE AND ARE REVERSIBLE |                      |             |  |     |             |

\*THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES IN WORKROOM AIR, ADOPTED BY ACGIH IN 1975.

## SECTION III - PHYSICAL DATA

|                         |                 |                                       |               |
|-------------------------|-----------------|---------------------------------------|---------------|
| BOILING POINT (°F.)     | 310-400°F       | SPECIFIC GRAVITY (H <sub>2</sub> O=1) | 0.775-0.797   |
| VAPOR PRESSURE (mm Hg.) | 2 mm Hg @ 68° F | PERCENT VOLATILE BY VOLUME (%)        | 100%          |
| VAPOR DENSITY (AIR=1)   | 4.9             | EVAPORATION RATE (Toluene = 1)        | 0.02          |
| SOLUBILITY IN WATER     | Negligible      | % Aromatics (Total)                   | Less than 16% |
| APPEARANCE AND ODOR     | Green Clear     |                                       |               |

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

|  |                  |     |      |
|--|------------------|-----|------|
| FLASH POINT (Method used)<br><b>105° F TCC</b>                                     | FLAMMABLE LIMITS | Lel | Uel  |
| EXTINGUISHING MEDIA<br><b>CO<sub>2</sub> FOAM, DRY CHEMICAL, WATER (MIST ONLY)</b> |                  | 9.5 | 25.0 |
| SPECIAL FIRE FIGHTING PROCEDURES<br><b>NONE</b>                                    |                  |     |      |
| UNUSUAL FIRE AND EXPLOSION HAZARDS<br><b>NONE</b>                                  |                  |     |      |



## SECTION V - HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE

100 ppm

EFFECTS OF OVEREXPOSURE

SEVERE EYE IRRITATION - DRYING OF SKIN - EXCESSIVE INHALATION CAUSES HEADACHE,

DIZZINESS AND NAUSEA. HARMFUL OR FATAL IF SWALLOWED.

EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: FLUSH WITH WATER. SKIN CONTACT: WASH WITH MILD SOAP/WATER, AND APPLY SKIN CREAM. INHALATION: REMOVE TO FRESH AIR AND CALL A PHYSICIAN; APPLY ARTIFICIAL RESPIRATION IF NECESSARY IN EXTREMES. ORAL: ADMINISTER PLAIN WATER—DO NOT INDUCE VOMITING. CALL A PHYSICIAN.

## SECTION VI - REACTIVITY DATA

STABILITY

UNSTABLE

CONDITIONS TO AVOID

STABLE

X

HEAT, SPARKS, OPEN FLAME AND FIRE

INCOMPATIBILITY (Materials to avoid)

STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS

NORMALLY NONE—HOWEVER, INCOMPLETE BURNING MAY YIELD CARBON MONOXIDE

HAZARDOUS  
POLYMERIZATION

MAY OCCUR

CONDITIONS TO AVOID

WILL NOT OCCUR

X

## SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

CATCH AND COLLECT FOR RECOVERY AS SOON AS POSSIBLE. AVOID EXPOSURE TO SPARKS, FIRE OR HOT METAL SURFACES.

WASTE DISPOSAL METHOD

DISPOSE OF IN ACCORDANCE WITH COMPANY OR LOCAL, STATE OR FEDERAL REGULATIONS.

INCINERATE UNDER SAFE CONDITIONS.

## SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type)

SELF-CONTAINED BREATHING APPARATUS FOR CONCENTRATIONS ABOVE TLV LIMITS.

VENTILATION

LOCAL EXHAUST

NORMAL ROOM VENTILATION

SPECIAL

MECHANICAL (General)

OTHER

PROTECTIVE GLOVES IN CASES OF PROLONGED

CONTACT, USE PROTECTIVE GLOVES OR BARRIER CREAM.

EYE PROTECTION

YES - NORMAL PRECAUTIONS

OTHER PROTECTIVE EQUIPMENT

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

COMBUSTIBLE. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. USE ADEQUATE VENTILATION.

AVOID LONG AND REPEATED CONTACT WITH SKIN. IF CLOTHES ARE INADVERTENTLY SATURATED

WITH SOLVENT—DO NOT SMOKE—KEEP AWAY FROM IGNITION SOURCE. KEEP OUT OF REACH OF

CHILDREN.

04/18/84 11:40

MATERIALS AND TOXICOLOGY SYSTEM (MATS) TOXICOLOGICAL AND ENVIRONMENTAL REVIEW

Page 1

Tox: 021451 Product: DBAZ-19515-B E-1414 SUPERSEAL ANTI-CORROSION COMPOUND, 16 OZ. AEROSOL

Supplier: SHRADER, RALPH, INC. (Code: S180A)

Tox Status: C2 (COMPLETE TOX REVIEW: ALL DATA AVAILABLE) Date: 09/16/83

This material was REVIEWED as M#: ESR-M7C54-A

This material has been APPROVED to ACTIVE Engineering spec ESR-M7C54-A (CORROSION PREVENTIVE COMPOUND)

MCS number: C-240 Color: BLACK

Aftermarket part: DBAZ-19515-B

Shop Locations: NEW YORK PARTS DIST CENTER (Faacs: 012640) MATS ID:FPSD-MATS

N. STEIBER/G. BALINT

BRAMALEA PARTS DEPOT

CANADA (Faacs: 621675) MATS ID:FPSD-MATS

J. A. SWALWELL, BRAMALEA PARTS DISTRIBUTION CENTER

----- Chemical Data -----

Type of Material: AEROSOL Sp. Grav.: 1.100 Flash point: +025 deg F test: CLEVELAND open cup  
pH data is not available for this material. Boiling point: +105 deg F

Note: CANADIAN AFTERMARKET PRODUCT -- PART NO. DBAZ-19515-B (RALPH SHRADER, CANADA).

\*\*\*\*\* TOXICOLOGICAL REVIEW \*\*\*\*\*

There are no IH&T bulletins.

----- Protective Measures -----

001 IMPERVIOUS GLOVES  
002 SAFETY GLASSES

007 VENTILATION (CONTACT INDUSTRIAL HYGIENE FOR SPECIFIC DETAILS)

----- Precautions -----

WARNING Contains: METHYLENE CHLORIDE, PETROLEUM DISTILLATES, and HYDROCARBON PROPELLANTS

R10 FLAMMABLE  
R20 HARMFUL BY INHALATION  
R86 IRRITATING TO EYES AND SKIN  
S23 DO NOT BREATHE GAS/FUMES/VAPOR/SPRAY  
S25 AVOID CONTACT WITH EYES  
S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY  
OF WATER AND SEEK MEDICAL ADVICE  
U15 CONTENTS UNDER PRESSURE

V01 AVOID PROLONGED OR REPEATED SKIN CONTACT  
V16 USE WITH ADEQUATE VENTILATION  
V17 DO NOT PUNCTURE CONTAINER  
V26 KEEP FROM HEAT, SPARKS, OR OPEN FLAME  
V29 DO NOT STORE, INCINERATE, OR HEAT ABOVE 120 DEGREES  
FAHRENHEIT  
W11 WASH THOROUGHLY AFTER HANDLING

----- Transportation Data -----

DOT Hazard Class: NA NOT APPLICABLE  
UN Number: DOT Shipping Name: CONSUMER COMMODITY, ORM-D

No PEO environmental review has been requested for this material.

SUPER-SEAL

# MATERIAL SAFETY DATA SHEET

CORPORATE RESEARCH & DEVELOPMENT

SCHENECTADY, N. Y. 12305

MATERIALS  
IS  
SERVICES  
INFORMATION

No. 316

BENZENE

Revision C

Date November 1978

## SECTION I. MATERIAL IDENTIFICATION

MATERIAL NAME: BENZENE

OTHER DESIGNATIONS: Benzol, Phenylhydride, Phene, C<sub>6</sub>H<sub>6</sub>, GE Material D5B53, ASTM D835, D836, D2359, CAS #000 071 432

MANUFACTURER: Available from many sources.

## SECTION II. INGREDIENTS AND HAZARDS

|  | x      | HAZARD DATA   |
|--|--------|---|
| Benzene  | ca 100 | 8-hr TWA 10 ppm (skin) <sup>*</sup><br>with<br>25 ppm ceiling level<br>and<br>50 ppm 10 minute peak |
| <p>*Current OSHA and ACGIH (1978) permissible exposure level.<br/>Note that the OSHA standard on benzene which would reduce the TLV to 1 ppm with a 5 ppm ceiling, forbid contact with liquid with over 0.5% benzene, and legally classify benzene as a human carcinogen has been struck down by U.S. Court of Appeals.</p> <p>ACGIH (1978) lists benzene as a <u>suspected carcinogen</u> for humans.</p> |        |   |

## SECTION III. PHYSICAL DATA

|                                    |          |  |          |
|------------------------------------|----------|--|----------|
| Boiling point, 1 atm, deg F (C) -- | 176 (80) | Specific gravity, 20/4 C --              | 0.879    |
| Vapor pressure at 20 C, mm Hg ---  | 74.6     | Volatiles, % -----                       | ca 100   |
| Vapor density (Air=1) -----        | 2.77     | Evaporation rate (CCl <sub>4</sub> =1) - | 1.0      |
| Solubility in water, wt. % -----   | 0.06     | Molecular weight -----                   | 78.12    |
|                                    |          | Melting point, deg F (C) --              | 42 (5.5) |

Appearance & Odor: Clear, colorless liquid having a characteristic aromatic odor. The odor recognition threshold (100% of panel) is 4.68 ppm (unfatigued) in air. Odor is is not an adequate warning of hazard.

## SECTION IV. FIRE AND EXPLOSION DATA

|                        |                    |                            | LOWER | UPPER |
|------------------------|--------------------|----------------------------|-------|-------|
| Flash Point and Method | Autoignition Temp. | Flammability Limits In Air |       |       |
| 120°F (-11°C) (TCC)    | 1044°F (562°C)     | Volume %                   | 1.3   | 7.1   |

Extinguishing Media: Water fog, CO<sub>2</sub>, dry chemical or foam. Use a blanketing effect to smother fire. A water stream will scatter the fire. A water spray can be used to cool fire exposed containers.

Firefighters should wear approved self-contained breathing apparatus.

This material can form explosive and flammable mixtures with air at room temperature. It is a severe explosion hazard and toxic hazard in a fire situation. Vapors can flow along surfaces to distant ignition sources and flash back.

## SECTION V. REACTIVITY DATA

Benzene is a stable compound under normal storage and use conditions; it does not polymerize.

Benzene will react vigorously with strong oxidizers such as ozone, permanganate, sulfuric or nitric acids, potassium peroxide, sodium peroxide, et al. It is a flammable liquid.

OSHA Class IB. Heating greatly increases the fire and explosion hazards.

Oxidation in air will produce oxides of carbon and nitrogen.

## SECTION VI. HEALTH HAZARD INFORMATION

TLV 10 ppm or 30 mg/m<sup>3</sup> (skin)

Excessive inhalation or prolonged skin exposure may cause headache, weariness, loss of appetite and lassitude with incipient blood effects including decreased cell counts, mild lymphosis and eosinopenia. The most significant toxic effect of benzene is insidious and often irreversible injury to the blood forming tissue from chronic low level exposures. Development of leukemia may occur from chronic excessive exposure! Eye contact yields irritation from liquid or high vapor concentrations. Skin contact will also yield a defatting effect. Inhalation may result in collapse, bronchitis and pneumonia.

## FIRST AID:

Eye contact: Wash eyes well with water for 15 minutes. Contact physician.

Skin contact: Wash skin well with water. Contaminated clothing should be removed at once.

Inhalation: Remove victim to fresh air. Restore breathing if required and administer oxygen for labored breathing. Contact physician.

Ingestion: Give edible fats or oils to swallow. Do not induce vomiting (aspiration hazard). Contact a physician immediately.

## SECTION VII. SPILL, LEAK, AND DISPOSAL PROCEDURES

If a significant spill occurs, notify safety personnel and evacuate the area. Remove all ignition sources. Provide maximum, explosion-proof ventilation. Clean-up personnel must use approved self-contained breathing apparatus and other protective equipment to avoid contact with benzene.

Remove free liquid. Pick up residue with an inert absorbant, such as vermiculite, and placed in a closed metal container for disposal, using non-sparking tools. When necessary, benzene may be flushed away from a critical area with water, but flush to open area only, not to sewer or to surface waters.

DISPOSAL: Incinerate waste benzene or dispose of via a licensed solvent disposal company. Do not send (or allow run off) to the sewer!

## SECTION VIII. SPECIAL PROTECTION INFORMATION

Provide general ventilation and local exhaust ventilation where benzene is used, handled, or stored to meet TLV requirements. Self-contained breathing apparatus should be available for emergencies and non-routine situations. Approved cartridge or canister type respirators can be used for benzene concentrations up to 50 ppm for short periods. A full facepiece is required above 10 ppm.

To prevent skin contact, gloves, aprons, boots, etc of neoprene or other benzene-resistant materials should be used. Chemical goggles or face shields should be used if splashing is possible. Eyewash station should be available where splashing is probable.

## SECTION IX. SPECIAL PRECAUTIONS AND COMMENTS

Whenever possible, less toxic solvents should be substituted for benzene. Consult health and safety services before benzene is used in plant operations. Do not breathe vapors. Prevent contact with liquid. It is a suspected cancer causing agent!

Keep away from heat, sources of ignition, and oxidizing agents. No smoking in areas of use. Store and handle as OSHA Class IB liquid.

Pre-placement detailed medical examination is needed. Workers who show heart, lung, kidney, liver, nervous disease, or any blood abnormality should not be assigned. Periodic physical examinations and area monitoring is required.

DATA SOURCE(S) CODE: 2-9, 12, 21

Judgments as to the suitability of information herein for purchaser's purposes are necessarily purchaser's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, General Electric Company extends no warranties, makes no representations and assumes no responsibility as to the accuracy or suitability of such information for application to purchaser's intended purposes or for consequences of its use.

APPROVALS: MIS, CRD

Industrial Hygiene  
and SafetyCorporate Medical  
Staff

U.S. DEPARTMENT OF LABOR  
OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
**MATERIAL SAFETY DATA SHEET**

3/6/81  
Supersedes issue  
10/17/80  
DG-4D

**SECTION I**

|  |   |  |
|--|---|--|
| MANUFACTURER'S NAME<br><b>EXXON COMPANY, U.S.A.</b>  |   | EMERGENCY TELEPHONE NO.<br><b>(713) 656-3424</b> |
| ADDRESS (Number, Street, City, State and ZIP Code)<br><b>P. O. Box 2180, Houston, TX 77001</b> |   |  |
| CHEMICAL NAME AND SYNONYMS<br><b>Petroleum Asphalt</b>   | TRADE NAME AND SYNONYMS<br><b>AC-20 ASPHALT (FN 7166)</b> |  |
| CHEMICAL FAMILY<br><b>Petroleum Hydrocarbon</b>  | FORMULA<br><b>Complex mixture of petroleum residua.</b>   |  |

**SECTION II HAZARDOUS INGREDIENTS**

**CAUTION:** Under certain circumstances sulfur compounds in hot asphalt may form hydrogen sulfide ( $H_2S$ ) gas. Cooling asphalt may continue to emit traces of  $H_2S$  temporarily from entrapped or dissolved gases.  $H_2S$  is a colorless toxic gas with an odor at low concentrations characteristic of rotten eggs and a sweetish odor at high concentrations (e.g., 100 ppm). Odor cannot be relied upon as a means of detection because the sense of smell rapidly becomes insensitive to  $H_2S$ , and the  $H_2S$  odor may be masked by the general odor of hot asphalt. Because  $H_2S$  may accumulate in tanks and bulk transport compartments, personnel should stand upwind, keep their faces at least two feet from compartment openings, and avoid breathing vapors when opening hatches and dome covers. (In a large number of tests, permissible concentrations in the breathing zone were not exceeded by following this procedure.) Prolonged breathing of 50 to 100 ppm of  $H_2S$  may produce eye and respiratory tract irritation, headache, nervousness and nausea, and only a few breaths of high concentrations (e.g. 700 to 1000 ppm) may lead to unconsciousness and could be fatal.

To avoid possible inhalation toxicity, the American Conference of Governmental Industrial Hygienists (ACGIH) has adopted a Threshold Limit Value for  $H_2S$  of 10 ppm in air as time-weighted average for an 8-hour workday. OSHA Regulation 29 CFR 1910.1000 further lists a ceiling concentration of 20 ppm, and a maximum peak of 50 ppm for 10 minutes once per day if no other measurable exposure occurs. NIOSH-approved respiratory equipment should be used when permissible concentrations are exceeded.

**SECTION III PHYSICAL DATA**

|                             |                   |                                      |                   |
|-----------------------------|-------------------|--------------------------------------|-------------------|
| BOILING RANGE<br><b>IBP</b> | <b>&gt; 900°F</b> | SPECIFIC GRAVITY ( $H_2O=1$ )        | <b>1.05</b>       |
| VAPOR PRESSURE (mm Hg.)     | <b>&lt; 0.1</b>   | PERCENT VOLATILE BY VOLUME (%)       | <b>Negligible</b> |
| VAPOR DENSITY (AIR=1)       | <b>&gt; 20</b>    | EVAPORATION RATE (n-BUTYL ACETATE=1) | <b>&lt; 0.01</b>  |
| SOLUBILITY IN WATER         | <b>Negligible</b> |                                      |                   |

APPEARANCE AND ODOR  
**Black semi-solid when cold; viscous fluid when hot. Characteristic heavy petroleum asphalt odor.**

**SECTION IV FIRE AND EXPLOSION HAZARD DATA**

|  |   |             |             |
|--|---|-------------|-------------|
| FLASH POINT (Method Used)<br><b>Cleveland Open Cup 450°F (232°C)</b> | FLAMMABLE OR EXPLOSIVE LIMITS<br>(PERCENT BY VOLUME IN AIR) | LOWER LIMIT | UPPER LIMIT |
|  |   | <b>1%</b>   | <b>6%</b>   |

EXTINGUISHING MEDIA  
**Water fog or spray, dry chemicals, foam, or  $CO_2$**

SPECIAL FIRE FIGHTING PROCEDURES  
**Use air-supplied breathing equipment for enclosed areas. Cool exposed containers with water spray. Avoid breathing fumes or mist.**

UNUSUAL FIRE AND EXPLOSION HAZARDS  
**Do not mix or store with strong oxidants like liquid chlorine or concentrated oxygen.**

## SECTION V HEALTH HAZARD DATA

### THRESHOLD LIMIT VALUE

ACGIH lists TLV for asphalt fumes as 5 mg/m<sup>3</sup>; however, by letter interpretation, OSHA states it would issue a citation if asphalt emissions sampling indicates more than 0.2 mg/m<sup>3</sup> of benzene-soluble material which includes at least one carcinogen. See OSHA regulations 29 CFR 1910.1000 and § 1910.1002. See also Section II regarding H<sub>2</sub>S gas.

### EFFECTS OF OVEREXPOSURE

Prolonged or repeated contact with product at warm or near ambient temperature may cause skin irritation. CAUTION: Product normally shipped hot (approximately 225-350°F); protect against burns. Inhalation of high vapor concentrations may cause eye and respiratory irritation, headaches, dizziness or nausea. See Section II regarding H<sub>2</sub>S.

### EMERGENCY AND FIRST AID PROCEDURES

If burned by hot product, obtain medical attention immediately. In case of skin contact with product under other conditions, wash thoroughly with soap and warm water. Removal of product from skin may be aided by use of waterless handcleaner. If hot product is splashed into eyes flush with clear water and contact Physician immediately. If overcome by H<sub>2</sub>S, immediately remove to fresh air and call a Physician. If breathing is irregular or stopped, start resuscitation, administer oxygen.

## SECTION VI REACTIVITY DATA

| STABILITY | CONDITIONS TO AVOID |        |
|-----------|---------------------|--------|
|           | UNSTABLE            | STABLE |
|           |                     | X      |

INCOMPATIBILITY (Materials to avoid): Strong oxidants like: liquid chlorine, concentrated oxygen, sodium - or calcium hypochlorite

HAZARDOUS DECOMPOSITION PRODUCTS: Fumes, smoke, carbon monoxide, hydrogen sulfide, and sulfur oxides, in the case of incomplete combustion.

| HAZARDOUS POLYMERIZATION | CONDITIONS TO AVOID |                |
|--------------------------|---------------------|----------------|
|                          | MAY OCCUR           | WILL NOT OCCUR |
|                          |                     | X              |

## SECTION VII SPILL OR LEAK PROCEDURES

### STeps TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Recover free product. Add absorbent (sand, earth, sawdust, etc.) to spill area. Hot product will solidify when cooled. Keep petroleum products out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers or watercourses

### WASTE DISPOSAL METHOD

Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste disposal site or facility.

## SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify type): Normally not needed. Use supplied-air respiratory protection in confined or enclosed spaces when handling hot product or when H<sub>2</sub>S exceeds permissible limits.

| VENTILATION | LOCAL EXHAUST                                   | SPECIAL   |
|-------------|---|---|
|             | Use local exhaust to capture fumes and vapors.* | Provide greater than 60 fpm hood or face velocity for confined spaces.* |
|             | MECHANICAL (General)                            | *When handling hot product.   |

PROTECTIVE GLOVES: Protect against hot liquid. Use chemical-resistant gloves to avoid skin contact. EYE PROTECTION: Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT: Use chemical-resistant apron and other clothing to protect against hot liquid and to avoid skin contact.

## SECTION IX SPECIAL PRECAUTIONS

### PRECAUTIONS TO BE TAKEN IN HANDLING & STORING

Keep containers closed when not in use. Do not handle or store near heat, flame, or strong oxidants. Adequate\*\*ventilation required.

\*\*Adequate means equivalent to outdoors.

OTHER PRECAUTIONS: Avoid breathing hot fumes, vapors, and mist. Remove contaminated clothing and launder before re-use. Discard contaminated shoes. Wash skin thoroughly with soap and water after handling.

FOR ADDITIONAL INFORMATION ON HEALTH EFFECTS CONTACT:

Director of Industrial Hygiene  
(713) 656-2443

FOR OTHER PRODUCT INFORMATION CONTACT:

Manager, Marketing Technical Services  
(713) 656-4929

**MATERIAL SAFETY DATA SHEET**

Goss k/m  
MSDS Linda Perry

Kar Kraft Systems, Inc.  
Plainville, MA 02762  
(617) 695-7033

---

**Product:** KK-2000 BUBBLE BATH  
**Chemical Class:** Aqueous surfactants

---

**Hazardous Ingredients:**

Dodecylbenzenesulfonic Acid (DDBSA) 27176-87-0; Sodium Hydroxide (caustic soda) 1310-73-2, TLV-C, 2mg/m3, 1-10%; Coconut Oil.

**Physical Data:** Green, Viscous Liquid

**Fire Hazard Data:** Non-flammable

**Health Hazard Data:** Skin and eye irritant. Wash skin with water. Flush eyes with water for 15 minutes, get medical attention. If swallowed, induce vomiting, call physician.

**Reactivity Data:** Stable. Store away from acids.

**Spill Procedures:** Absorb & dike. Keep out of sewers & streams.

**Special Protection:** Water-proof gloves, goggles.

**Special Precautions:** Avoid skin & eye contact. Do not ingest.

---

**Source:** ingr MSDS  
**Prep:** GMD/WKS, 3/86, d12A  
**KKS** 32

## MATERIAL SAFETY DATA SHEET

Kar Kraft Systems, Inc.  
Plainville, MA 02762  
(617) 695-7033

-----  
**Product:** BP-0002 SOLUTION ONE  
**Chemical Class:** Mixed surfactants  
-----

**Hazardous Ingredients:**

Potassium hydroxide (Caustic Potash) 131-05-83, TLV-C 2 mg/m<sup>3</sup>, 1-10%; 2-Butoxyethanol (butyl cellosolve) 111-76-2, TLV-skin, 25 ppm, 1-10%; Isopropyl alcohol 67-63-0, TLV 400 ppm, 1-10%; Mineral Spirits 8032-32-4, TLV est, 100 ppm, 10-30%; Aromatic Solvent 64742-94-5, TLV 100 ppm, 10-20%;

**Physical Data:** Amber Liquid, slightly viscous

**Fire Hazard Data:** Combustible; use foam or CO<sub>2</sub>

**Health Hazard Data:** Skin and eye irritant; material can penetrate skin. Wash skin with soap & water. Flush eyes with water for 15 minutes. If swallowed, drink 2 glasses of milk or water, call physician.

**Reactivity Data:** Stable. Keep away from acids.

**Spill Procedures:** Use absorbant. Keep out of sewer and streams.

**Special Protection:** Use solvent-resistant gloves.

**Special Precautions:** Avoid contact with skin and eyes. Do not ingest. Use adequate ventilation.

-----  
**Source:** ingr MSDS  
**Prep:** GMD/WKS, 3/86, d12A  
**KKS** 09



## MATERIAL SAFETY DATA SHEET

Kar Kraft Systems, Inc.  
Plainville, MA 02762  
(617) 695-7033

---

Product: KK-1000 FORMULA MAX  
Chemical Class: Aqueous solvent

---

Hazardous Ingredients:

2-Butoxyethanol (butyl cellosolve) 111-76-2, TLV skin, 25 ppm, 1-10%; Sodium Silicate (water glass) 6834-92-0; Tetrasodium EDTA (EDTA) 64-02-8; Nonylphenoxypolyethoxyethanol (surfactant).

Physical Data: Pink Liquid

Fire Hazard Data: Non-flammable

Health Hazard Data: Skin and eye irritant. Skin penetrant. Wash skin with water. Flush eyes for 15 minutes; get medical attention. Caustic. Remove wet clothing. If swallowed, induce vomiting & call physician.

Reactivity Data: Stable. Avoid contact with acids & chlorohydrocarbons.

Spill Procedures: Absorb & dike. Keep out of sewers & streams.

Special Protection: Water-proof gloves, goggles.

Special Precautions: Avoid contact with skin and eyes.

---

Source: ingr MSDS  
Prep: GMD/WKS, 3/86, d12A  
KKS 35

## MATERIAL SAFETY DATA SHEET

Kar Kraft Systems, Inc.  
Plainville, MA 02762  
(617) 695-7033

-----  
**Product:** KK-3000 GLASS CLEANER CONC.  
**Chemical Class:** Aqueous solvent  
-----

**Hazardous Ingredients:**

Isopropanol (isopropyl alcohol) 67-63-0, TLV 400 ppm, 20-40%;  
2-Butoxyethanol (butyl cellosolve) 111-76-2, TLV-skin, 25  
ppm, 20-40%; Ammonium Hydroxide (ammonia solution)  
1336-21-6.

**Physical Data:** Blue Liquid, ammonia odor.

**Fire Hazard Data:** Flammable. Use dry chemical or CO2.

**Health Hazard Data:** Skin & eye irritant. Skin penetrant. Wash  
skin with water. Flush eyes with water for 15 minutes; get  
medical care. If swallowed, drink 2 glasses of milk or water,  
induce vomiting, call physician.

**Reactivity Data:** Stable.

**Spill Procedures:** Use absorbant, dike. Keep out of sewers &  
streams.

**Special Protection:** Water-proof gloves; goggles

**Special Precautions:** Avoid splashing in eyes; remove wet  
clothing. Use adequate ventilation. Do not ingest. Keep away  
from heat, sparks, flame.

-----  
**Source:** ingr MSDS  
**Prep:** GMD/WKS, 3/86, d12A  
**KKS** 03



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE: 11/1/88  
SUBSTITUTION: 11/1/88

## SECTION I - EMERGENCY

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: A.D. 215  
P.O. BOX 2015 404-2973, 976-0199, 702-1211, 101-2500, 111-1111  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER  
TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M.-5:00P.M. CHEMTREC: TOLL FREE 1-800-368-5848  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA 20001

## SECTION II - HAZARDOUS INFORMATION

### DESIGNATIONS

\*\* LOW ODOR PARAFFINIC SOLVENT \*\* odorless base oil.  
dispersol; CAS# 64742-47-8; RTECS# NONE; OSHA PEL-  
500 ppm.

\*\* NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL \*\*  
poly(oxy-1,2-ethanedigly), alpha-(nonylphenyl)-omega-  
hydroxy; CAS# 9016-45-9; RTECS# HD705000; OSHA PEL-  
N/D

0% ALCAL  
/PPM. (ONE REVERSAL) 100  
500 PPM OBL

N/D FIR

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED  
CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE OBSERVED.

## SECTION III - HEALTH HAZARDS

### ACUTE EFFECTS OF OVEREXPOSURE:

THIS PRODUCT IS NOT SUFFICIENTLY VOLATILE TO CONSTITUTE A VAPOR HAZARD.  
HAZARD. SEVERE OVER-EXPOSURE TO CONCENTRATED VAPOR MAY INDUCE CENTRAL  
NERVOUS SYSTEM DEPRESSION, CHARACTERIZED BY HEADACHE AND DROWSINESS.  
SOLVENTS, AS IN ASPIRATION (OF VOMITUS FLUIDS) MAY EXACERBATE THE EFFECTS.  
THIS PRODUCT CAN BE AN EYE IRRITANT. IRRITATION OF EYE MAY BE INDICATED  
BY REDNESS, WATERING, AND/OR ILL FEELING.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE: 07/05/87 ZEP M-100  
SUPERCEDED: 04/20/89 IN PART BY M-100

## SECTION III - HEALTH HAZARD DATA

CHRONIC EFFECTS OF OVEREXPOSURE:

SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH THIS PRODUCT MAY BE  
SUSCEPTIBLE TO IRRITATION, INFECTION, OR DERMATITIS.

NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, OR EPA.

EST'D PEL/TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: INH.

HMIS CODES: HEALTH 0/FLAM 0/REACT 0/PHYS 0/PROTECT 0/HAZ 0/ENV 0

### FIRST AID PROCEDURES:

SKIN : THIS PRODUCT IS FORMULATED FOR USE ON THE SKIN, BUT IF IRRITATED,  
RINSE OFF WITH WATER.

EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.  
CASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION.

INHALE: MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS,  
GET MEDICAL ATTENTION PROMPTLY.

INGEST: IF THIS PRODUCT IS SWALLOWED, DO NOT INDUCE VOMITING. IF NOT  
CONSCIOUS GIVE PLENTY OF WATER TO DRINK. GET MEDICAL ATTENTION AT ALL TIMES.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : NO SPECIAL MEASURES ARE REQUIRED.

EYE PROTECTION : NO SPECIAL MEASURES ARE REQUIRED.

RESPIRATORY PROTECTION: NO SPECIAL MEASURES ARE REQUIRED.

VENTILATION : NO SPECIAL MEASURES ARE REQUIRED.

## SECTION V - PHYSICAL DATA

BOILING POINT (°F) : N/D

VAPOR PRESSURE(MMHG): N/D

VAPOR DENSITY(AIR=1): N/D

SOLUBILITY IN WATER : EMULSIFIES

SPECIFIC GRAVITY

PERCENT VOLATILE BY WEIGHT

EVAPORATION RATE

PHACNELITIC

PHASE DENSITY

APPEARANCE AND ODOR : LIGHT GREEN GEL WITH ALMOND LIKE ODOOR

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(°F) (METHOD USED): NONE BELOW 100°

FLAMMABLE LIMITS LEL N/D UEL N/D

EXTINGUISHING MEDIA : GEL STRUCTURE IMPROVES FIRE FIGHTING EFFORTS

SPECIAL FIRE FIGHTING: NONE

UNUSUAL FIRE HAZARDS : PRODUCT WILL NOT BURN BELOW 100°



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE: 01/06/90 ZEP READY  
SUPERSEDED: 01/06/90 PRODUCT NUMBER: 10000

## SECTION VII - REACTIVITY DATA

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : STRONG OXIDIZERS  
POLYMERIZATION : WILL NOT OCCUR.  
HAZARDOUS DECOMPOSITION: MAY DECOMPOSE TO FORM TOXIC/COCORROSIVE GASES  
IF EXPOSED TO HIGH HEAT

## SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
OBSERVE SAFETY PROCEDURES IN SECTION 4 & 7 DURING CLEAN-UP. ABSORB SPILL WITH  
INERT ABSORBENT MATERIAL (e.g. ZEP-O-ZORB). PICK UP AND PLACE RESIDUE IN  
SUITABLE WASTE CONTAINER. WASH SPILL AREA THOROUGHLY WITH A DETERGENT SOLUTION  
AND RINSE WELL WITH WATER.

WASTE DISPOSAL METHOD:  
LIQUID WASTES ARE NOT PERMITTED IN LANDFILL. PRODUCT IS NOT CLASSIFIED AS A  
HAZARDOUS WASTE UNDER RCRA. UNUSABLE LIQUID MAY BE ABSORBED ON AN INERT MATERIAL  
(e.g. ZEP-O-ZORB), DRUMMED AND TAKEN TO A CHEMICAL OR INDUSTRIAL WASTE  
TREATMENT MAY BE REQUIRED BEFORE LANDFILLING. CONSULT LOCAL, STATE OR FEDERAL  
AGENCIES FOR PROPER DISPOSAL IN YOUR AREA.

RCRA HAZ. WASTE NOS.: N/A

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING.  
STORE TIGHTLY CLOSED CONTAINER IN A DRY AREA AT TEMPER. BEYOND REACH OF CHILDREN.  
KEEP PRODUCT OUT OF REACH OF EYES.  
KEEP OUT OF THE REACH OF CHILDREN.

## SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME  
NONE

DOT HAZARD CLASS: N/A

DOT I. D. NUMBER : N/A DOT LABEL: FLAMMABLE LIQUID

EPA TSCA CHEMICAL INVENTORY - ALL INFORMATION APPLICABLE

EPA CWA 40 CFR PART 117 SUBSTANCES IN A SINGLE CONTAINER



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY  
ST IN MAINTENANCE PRODUCTS

DATE : 07/09/89 ZEP REACH  
SUPERSEDES: 06/23/89 PRODUCT NUMBER: 0405

## SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404  
P.O. BOX 2015 435-2973, 996-0899, 252-1587, 351-2952, 445-9226  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER  
TELEPHONE (404) 352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202) 462-7616 ALL CALLS RECORDED

## SECTION II - HAZARDOUS INGREDIENTS

### DESIGNATIONS

| DESIGNATIONS   | TLV (PPM) | EFFECTS (SEE REVERSE) | PROV |
|--|-----------|-----------------------|------|
| ** LOW ODOR PARAFFINIC SOLVENT ** odorless base oil;<br>dispersol; CAS# 64742-47-8; RTECS# NONE; OSHA PEL-<br>500 ppm.   | 500       | CHS CBL               | 3-11 |
| ** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL **<br>poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-<br>hydroxy; CAS# 9016-45-9; RTECS# MD905000; OSHA PEL-<br>N/D | N/D       | EIP                   | 7D   |

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED

## SECTION III - HEALTH HAZARD DATA

### ACUTE EFFECTS OF OVEREXPOSURE:

THIS PRODUCT IS NOT SUFFICIENTLY VOLATILE TO CONSTITUTE A SIGNIFICANT HAZARD. SEVERE OVER-EXPOSURE TO CONCENTRATED VAPOR MAY PRODUCE MILD CENTRAL NERVOUS SYSTEM DEPRESSION, CHARACTERIZED BY HEADACHE AND STUPOR. INHALATION OF SOLVENTS, AS IN ASPIRATION OF VOMITUS FLUIDS, MAY PRODUCE TRACHEAL IRRITATION. THIS PRODUCT CAN BE AN EYE IRRITANT. IRRITATION OF EYE TISSUE IS CAUSED BY REDNESS, WATERING, AND/OR ITCHING.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 1 OF 1

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE 07/09/01 ZEP REACH  
SUPERSEDES: 06/29/99 PRODUCT NUMBER: 0925

## SECTION III - HEALTH HAZARD DATA (CONTINUED)

CHRONIC EFFECTS OF OVEREXPOSURE:

SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH THIS PRODUCT MAY BE MORE SUSCEPTIBLE TO IRRITATION, INFECTION, OR DERMITITIS.

NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

EST'D PEL/TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: INH.

HMIS CODES: HEALTH 0; FLAM. 0; REACT. 0; PERH. PROTECT. N/A; CHRONIC HAZ. NO

FIRST AID PROCEDURES:

SKIN : THIS PRODUCT IS FORMULATED FOR USE ON THE SKIN, BUT IT SHOULD BE RINSED OFF WITH WATER.

EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.

INHALE: MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION PROMPTLY.

INGEST: IF THIS PRODUCT IS SWALLOWED, DO NOT INDUCE VOMITING. IF VICTIM IS CONSCIOUS GIVE PLENTY OF WATER TO DRINK. GET MEDICAL ATTENTION AT ONCE.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : NO SPECIAL MEASURES ARE REQUIRED.

EYE PROTECTION : NO SPECIAL MEASURES ARE REQUIRED.

RESPIRATORY PROTECTION: NO SPECIAL MEASURES ARE REQUIRED.

VENTILATION : NO SPECIAL MEASURES ARE REQUIRED.

## SECTION V - PHYSICAL DATA

|   |            |                                |      |
|---|------------|--------------------------------|------|
| BOILING POINT (F)   | N/D        | SPECIFIC GRAVITY               | 0.97 |
| VAPOR PRESSURE (MMHG)                                       | N/D        | PERCENT VOLATILE BY VOLUME (X) | 83.5 |
| VAPOR DENSITY (AIR=1)                                       | N/D        | EVAPORATION RATE (1)           | N/D  |
| SOLUBILITY IN WATER   | EMULSIFIES | PH (CONCENTRATE)               | 8.0  |
|   |            | PH (USE DILUTION OF)           | N/A  |
| APPEARANCE AND ODOR : LIGHT GREEN GEL WITH ALMOND FRAGRANCE |            |                                |      |

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT (F) (METHOD USED): NONE BELOW 160F (TCC)

FLAMMABLE LIMITS LEL N/D UEL N/D

EXTINGUISHING MEDIA : GEL STRUCTURE INHIBITS COMBUSTIBILITY OF SOLID

SPECIAL FIRE FIGHTING: NONE

UNUSUAL FIRE HAZARD: NONE



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

ZEP MANUFACTURING COMPANY  
IN MAINTENANCE PRODUCTS

DATE : 07/09/89 ZEP REACH  
SUPERSEDES: 06/20/89 PRODUCT NUMBER: 0925

## SECTION VII - REACTIVITY DATA

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : STRONG OXIDIZERS  
POLYMERIZATION : WILL NOT OCCUR.  
HAZARDOUS DECOMPOSITION: MAY DECOMPOSE TO FORM TOXIC/CORROSIVE GASES  
IF EXPOSED TO HIGH HEAT.

## SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
OBSERVE SAFETY PROCEDURES IN SECTION 4 & 9 DURING CLEAN-UP. ABSORB SPILL ON  
INERT ABSORBENT MATERIAL (eg ZEP-G-ZORB). PICK UP AND PLACE RESIDUE IN A  
SUITABLE WASTE CONTAINER. WASH SPILL AREA THOROUGHLY WITH A DETERGENT SOLUTION  
AND RINSE WELL WITH WATER.

### WASTE DISPOSAL METHOD:

LIQUID WASTES ARE NOT PERMITTED IN LANDFILLS. PRODUCT IS NOT CONSIDERED A HAZ-  
ARDOUS WASTE UNDER RCRA. UNUSABLE LIQUID MAY BE ABSORBED ON AN INERT ABSORBENT  
(e.g. ZEP-G-ZORB), DRUMMED AND TAKEN TO A CHEMICAL OR INDUSTRIAL LANDFILL. FURTHER  
TREATMENT MAY BE REQUIRED BEFORE LANDFILLING. CONSULT LOCAL, STATE, OR FEDERAL  
AGENCIES FOR PROPER DISPOSAL IN YOUR AREA.

RCRA HAZ. WASTE NOS.: N/A

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
STORE TIGHTLY CLOSED CONTAINER IN A DRY AREA AT TEMPS BETWEEN 40 °F. AND 120 °F.  
KEEP PRODUCT OUT OF EYES.  
KEEP OUT OF THE REACH OF CHILDREN.

## SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME  
NONE

HAZARD CLASS: N/A

DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: NONE

EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED

EPA CWA 40CFR PART 117 SUBSTANCE(S) IN A SINGLE CONTAINER: NONE





# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 1 OF 3

DATE : 08/16/86 ZEP DYNA 143  
SUPERSEDES: 07/25/86 PRODUCT NUMBER: 0366

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

## SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404  
P.O. BOX 2015 435-2973, 996-0899, 252-1687, 351-2952, 445-9226  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER .....  
TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

## SECTION II - HAZARDOUS INGREDIENTS

### DESIGNATIONS

\*\* LIGHT ALIPHATIC NAPHTHA \*\* solvent naphtha  
(petroleum), medium aliphatics; CAS# 64742-88-7  
RTECS# NONE

| TLV<br>(PPM) | EFFECTS<br>(SEE REVERSE) | % IN<br>PROD. |
|--------------|--------------------------|---------------|
| 200          | TOX IRR CBL              | >90           |

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED  
CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

## SECTION III - HEALTH HAZARD DATA

### ACUTE EFFECTS OF OVEREXPOSURE:

OVER-EXPOSURE TO THE VAPORS FROM THIS PRODUCT MAY PRODUCE MUCOUS MEMBRANE IRR-  
ITATION, PARTICULARLY OF THE EYE AND RESPIRATORY TRACT. OVER-EXPOSURE TO VAPORS  
MAY ALSO PRODUCE MILD CENTRAL NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY HEAD-  
ACHE, DIZZINESS, NAUSEA, AND STUPOR, LEADING TO UNCONSCIOUSNESS IN EXTREME  
CASES. INTRODUCTION OF SOLVENTS, AS IN ASPIRATION OF VOMITUS FLUID, MAY PRODUCE  
CHEMICAL PNEUMONIA. EXISTING RESPIRATORY DISORDERS AND LUNG DISEASES MAY BE AG-  
GRAVATED BY INHALATION OF VAPORS.



MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 2 OF 3

DATE : 02/16/86 ZEP DYNA 143  
SUPERSEDES: 07/25/86 PRODUCT NUMBER: 0366

## SECTION III - HEALTH HAZARD DATA (CONTINUED)

### CHRONIC EFFECTS OF OVEREXPOSURE:

SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH THIS PRODUCT MAY BE MORE SUSCEPTIBLE TO IRRITATION, INFECTION, OR DERMITITIS.

NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

EST'D PEL/TLV: 200 PPM

PRIMARY ROUTES OF ENTRY: INH, SKIN.

HMS CODES: HEALTH 2; FLAM. 2; REACT. 0; PERS. PROTECT. B ; CHRONIC HAZ. YES

### FIRST AID PROCEDURES:

SKIN : WASH CONTAMINATED SKIN THOROUGHLY WITH SOAP OR A MILD DETERGENT. APPLY A SKIN CREAM WITH LANOLIN. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.  
EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.  
INHALATION: MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION PROMPTLY.  
INGEST: IF SWALLOWED, DO NOT INDUCE VOMITING. IF VOMITING OCCURS, KEEP HEAD BELOW HIP LEVEL. GET EMERGENCY MEDICAL ATTENTION IMMEDIATELY.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : WEAR NEOPRENE, NITRILE, OR NATURAL RUBBER GLOVES OR GLOVES WITH PROVEN RESISTANCE TO THE INGREDIENTS LISTED.  
EYE PROTECTION : WEAR TIGHT-FITTING SPLASH-PROOF SAFETY GLASSES ESPECIALLY IF CONTACT LENSES ARE WORN.  
RESPIRATORY PROTECTION: IF VENTILATION IS INADEQUATE, WEAR A PROPERLY FITTING MSA OR OSHA-APPROVED RESPIRATOR.  
VENTILATION : VENTILATION SHOULD BE EQUIVALENT TO OUTDOORS. USE EXHAUST FANS AND OPEN WINDOWS IN ENCLOSED SPACES.

## SECTION V - PHYSICAL DATA

|   |              |                                    |         |
|---|--------------|------------------------------------|---------|
| BOILING POINT (F)   | : 368F INIT. | SPECIFIC GRAVITY                   | : 1.785 |
| VAPOR PRESSURE(MMHG)  | : <5         | PERCENT VOLATILE BY VOLUME (%)     | : 100   |
| VAPOR DENSITY(AIR=1)  | : 5.3        | EVAPORATION RATE(BUTYL ACETATE =1) | : 0.14  |
| SOLUBILITY IN WATER   | : INSOLUBLE  | PH(CONCENTRATE)                    | : N/A   |
|   |              | PH(USE DILUTION OF                 | : N/A   |
| APPEARANCE AND ODOR : A CLEAR, WATER-WHITE LIQUID WITH A MILD ODOR. |              |                                    |         |

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): 143F (TCC )  
FLAMMABLE LIMITS : LEL 1% UEL 7%  
EXTINGUISHING MEDIA : WATER FOG, CO2, FOAM, DRY CHEMICAL  
SPECIAL FIRE FIGHTING: SELF-CONTAINED BREATHING APPARATUS  
UNUSUAL FIRE HAZARDS : DIRECT WATER ONTO INTACT CONTAINERS TO PREVENT BURSTING.



ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 2 OF 3

DATE : 08/16/86 ZEP DYNA 143  
SUPERSEDES: 07/25/86 PRODUCT NUMBER: 0366

## SECTION VII - R E A C T I V I T Y   D A T A

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : HEAT, OPEN FLAME, SPARK, AND OXIDIZING AGENTS  
POLYMERIZATION : WILL NOT OCCUR  
HAZARDOUS DECOMPOSITION: CARBON DIOXIDE, CARBON MONOXIDE, AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS.

## SECTION VIII - S P I L L   A N D   D I S P O S A L   P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
IMMEDIATELY ELIMINATE ALL FLAME, IGNITION AND HIGH-HEAT SOURCES. ABSORB SPILL ON INERT ABSORBENT MATERIAL (eg ZEP-O-ZORB). PICK UP AND PLACE RESIDUE IN A CLEAN, D.D.T. SPECIFICATION CONTAINER FOR DISPOSAL. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE WELL WITH WATER.

WASTE DISPOSAL METHOD:  
LIQUID WASTES ARE NOT PERMITTED IN LANDFILLS. PRODUCT IS NOT CONSIDERED A HAZARDOUS WASTE UNDER RCRA. UNUSABLE LIQUID MAY BE ABSORBED ON AN INERT ABSORBENT (eg ZEP-O-ZORB), DRUMMED AND TAKEN TO A CHEMICAL OR INDUSTRIAL LANDFILL. CONSULT LOCAL, STATE OR FEDERAL AGENCIES FOR PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: N/A

## SECTION IX - S P E C I A L   P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
COMBUSTIBLE! STORE AND USE AWAY FROM HEAT, SPARKS, OPEN FLAME, OR ANY SOURCE OF IGNITION.  
POST "NO SMOKING" SIGNS ACCORDING TO LOCAL REGULATIONS FOR COMBUSTIBLE LIQUIDS.  
KEEP PRODUCT AWAY FROM SKIN AND EYES.  
DO NOT BREATHE SPRAY MISTS OR VAPORS.  
CLOTHING OR SHOES WHICH BECOME CONTAMINATED WITH SUBSTANCE SHOULD BE REMOVED PROMPTLY AND NOT REWORN UNTIL THOROUGHLY CLEANED.  
STORE TIGHTLY CLOSED CONTAINER IN DRY AREA AT TEMPERATURES BETWEEN 40 AND 120 DEGREES F.  
KEEP OUT OF THE REACH OF CHILDREN.

## SECTION X - T R A N S P O R T A T I O N   D A T A

DOT PROPER SHIPPING NAME  
ONE  
DOT HAZARD CLASS: N/A  
DOT I.D. NUMBER : N/A      DOT LABEL/PLACARD: NONE  
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED  
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): N/A

## SPECIAL PRECAUTIONS

### Special Labeling Information:

DOT Shipping Name: Helium or Helium, Compressed  
DOT Hazard Class: Non Flammable Gas  
DOT Shipping Label: Nonflammable gas I.D. No.: UN 1046

### Special Handling Recommendations:

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (3000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

For additional recommendations, consult Compressed Gas Association Pamphlets P-1, P-9, P-14, and Safety Bulletin SB-2.

### Special Storage Recommendations:

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.

For additional recommendations, consult Compressed Gas Association Pamphlets P-1, P-9, P-14, and Safety Bulletin SB-2.

### Special Packaging Recommendations:

Helium is noncorrosive and may be used with any common structural material.

### Other Recommendations or Precautions:

Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipments of a compressed gas cylinder, which has not been filled by the owner or with his (written) consent, is a violation of Federal Law (49CFR).



Divsion of The BOC Group, Inc.

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# MATERIAL SAFETY DATA SHEET

Welding Consumables  
and Related Products  
Conforms to OSHA 1910.1200

## IDENTIFICATION

|                       |                                    |
|-----------------------|------------------------------------|
| PRODUCT NAME: Helium  | CHEMICAL FAMILY: Inert Gas         |
| SYNONYMS: Helium 4    | DOT HAZARD CLASS: Nonflammable gas |
| CAS NUMBER: 7440-59-7 | DOT IDENTIFICATION NUMBER: UN 1046 |
| CHEMICAL FORMULA: He  | CHEMTREC: 800-424-9300             |

## HEALTH HAZARD DATA

### TIME WEIGHTED AVERAGE EXPOSURE LIMIT:

TWA: Helium is defined as a simple asphyxiant. Oxygen levels should be maintained at greater than 18 molar percent at normal atmospheric pressure which is equivalent to a partial pressure of 135 mm Hg. (ACGIH, 1984-85)

TWA: 5,000 Molar PPM. Its STEL is proposed to be changed from 15,000 Molar PPM to 30,000 Molar PPM (ACGIH, 1984-85)

### SYMPTOMS OF EXPOSURE:

Effects of exposure to high concentrations so as to displace the oxygen in the air necessary for life are headache, dizziness, labored breathing and eventual unconsciousness. Breathing mixtures of helium with adequate oxygen to support life modifies the voice sound so that it is higher "pitched".

### TOXICOLOGICAL PROPERTIES:

Helium is nontoxic but the liberation of a large amount in a confined area could displace the amount of oxygen in air necessary to support life.

#### RECOMMENDED FIRST AID TREATMENT:

PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO Helium  
RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS

Inhalation: Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, given mouth-to-mouth resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

#### Hazardous Mixtures of Other Liquids, Solids, or Gases:

None.

#### PHYSICAL DATA

Boiling Point: Sublimation Point =  $-452.1^{\circ}\text{F}$  ( $-268.9^{\circ}\text{C}$ )

Liquid Density @ Boiling Point: Solid Density =  $7.8 \text{ lb/ft}^3$  ( $125 \text{ kg/m}^3$ )

Vapor Pressure @  $70^{\circ}\text{F}$  ( $21.1^{\circ}\text{C}$ ): above the critical temp. of  $-450.3^{\circ}\text{F}$  ( $268^{\circ}\text{C}$ )

Specific Gravity @  $70^{\circ}\text{F}$ , 1 atm (Air=1): 0.14

Solubility in Water: Negligible

Freezing Point:  $-456.5^{\circ}\text{F}$  ( $-271.3^{\circ}\text{C}$ )

Appearance and Odor: Colorless, odorless gas

#### FIRE/EXPLOSION HAZARDS DATA

Flash Point (Method Used): N/A

Auto Ignition Temperature: N/A

LEL: N/A

UEL: N/A

Extinguishing Media: Nonflammable, inert gas

Electrical Classification: Nonhazardous

Special Fire Fighting Procedures: N/A.

Unusual Fire and Explosion Hazards: N/A

#### REACTIVITY DATA

##### Stability:

Stable

##### Incompatibility (Materials to Avoid):

None

##### Hazardous Decomposition Products:

Carbon monoxide

##### Hazardous Polymerization:

Will not occur

##### Conditions to Avoid:

#### SPILL OR LEAK PROCEDURES

##### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in-container or container valve, contact CHEMTREC for emergency assistance or your closest Airco location.

##### Waste Disposal Method:

Do not attempt to dispose of residual or unused quantities. Return in the shipping container properly labeled, with any valve outlet plugs or caps secured and valve protection cap in place to Airco for proper disposal.

#### SPECIAL PROTECTION INFORMATION

Respiratory Protection: Positive pressure air line with mask or self-contained breathing apparatus should be available for emergency use.

Ventilation: See local exhaust.

Local Exhaust: To prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 18 molar percent.

Special:

Mechanical (Gen.):

Other

Protective Gloves: Any material.

Eye Protection: Safety goggles or glasses

Other Protective Equipment: Safety shoes.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

Page 1 of 1

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 08/06/87 ZEP FLASH  
SUPERSEDES: 07/17/87 PRODUCT NUMBER: 0700

## SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404  
P.O. BOX 2015 435-2973, 995-0899, 252-1587, 351-2932, 971-3717  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER .....  
TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202)493-7616 ALL CALLS RECORDED

## SECTION II - HAZARDOUS INGREDIENTS

| DESIGNATIONS   | TLV (PPM) | EFFECTS (SEE REVERSE) | % IN PROD. |
|--|-----------|-----------------------|------------|
| ** SODIUM METASILICATE ** silicic acid (H <sub>2</sub> -Si-O <sub>3</sub> ) di-sodium salt; water glass; CAS# 16834-92-0; RTECS# VV9275000; DUST LIMIT= 2 MG/M <sup>3</sup> (FOR POWDERS ONLY) | N/D       | COR                   | 60-70      |
| ** TRISODIUM ORTHOPHOSPHATE ** TSP; phosphoric acid, trisodium salt; CAS# 7601-54-9; RTECS# TC9490000  | N/D       | IRR                   | 10-20      |
| ** SODIUM CARBONATE ** soda ash; carbonic acid, di-sodium salt; CAS# 497-19-8; RTECS# VZ4050000; DUST LIMIT = 15 MG/M <sup>3</sup>   | N/D       | IRR                   | 3-15       |
| ** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL ** poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-hydroxy; CAS# 9016-45-9; RTECS# MD905000; OSHA PEL-N  | N/D       | EIR                   | 5          |
| ** SODIUM CHLORIDE ** halite; salt; CAS# 7647-14-5; RTECS# VZ4725000; OSHA PEL-N/D.  | N/D       | EIR                   | 5-10       |

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

## SECTION III - HEALTH HAZARD DATA

### ACUTE EFFECTS OF OVEREXPOSURE:

IRRITATIVE TO SKIN AND EYES. THE AMOUNT OF TISSUE DAMAGE DEPENDS ON LENGTH OF CONTACT. EYE CONTACT CAN RESULT IN CORNEAL DAMAGE OR BLINDNESS. SKIN CONTACT CAN PRODUCE INFLAMMATION AND BLISTERING. INHALATION OF DUST WILL PRODUCE IRRITATION TO GASTROINTESTINAL OR RESPIRATORY TRACT, CHARACTERIZED BY BURNING, SNEEZING AND COUGHING. SEVERE OVER-EXPOSURE CAN PRODUCE LUNG DAMAGE, CHOKING, UNCONSCIOUSNESS OR DEATH.



ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 2 OF 3

DATE : 08/06/87 ZEP FLASH  
SUPERSEDES: 07/17/87 PRODUCT NUMBER: 0723

## SECTION III - HEALTH HAZARD DATA (CONTINUED)

### CHRONIC EFFECTS OF OVEREXPOSURE:

REPEATED EXPOSURE OF THE EYES TO A LOW LEVEL OF DUST CAN PRODUCE EYE IRRITATION. REPEATED SKIN EXPOSURE CAN PRODUCE LOCAL SKIN DESTRUCTION, OR DERMATITIS. REPEATED INHALATION OF DUST CAN PRODUCE VARYING DEGREES OF RESPIRATORY IRRITATION OR LUNG DAMAGE.

NONE OF THE INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, OR OSHA.

EST'D PEL/TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: INH.

HMS CODES: HEALTH 3; FLAM. 0; REACT. 0; PERS. PROTECT. D ; CHRONIC HAZ. YES

### FIRST AID PROCEDURES:

SKIN : IMMEDIATELY FLUSH CONTAMINATED SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IMMEDIATELY.

EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.

INHALE: MOVE VICTIM TO FRESH AIR. FLUSH MOUTH AND NASAL PASSAGES WITH WATER REPEATEDLY. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

INGEST: IF THIS PRODUCT IS SWALLOWED, DO NOT INDUCE VOMITING. IF VICTIM IS CONSCIOUS GIVE PLENTY OF WATER TO DRINK. GET MEDICAL ATTENTION AT ONCE.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : WEAR RUBBER, NEOPRENE, OR NITRILE GLOVES, ALKALI RESISTANT FOOTWEAR, FACE SHIELD, APRON, AND ARM COVERINGS.

EYE PROTECTION : WEAR SPLASH-PROOF SAFETY GOGGLES ESPECIALLY IF CONTACT LENSES ARE WORN.

RESPIRATORY PROTECTION: USE NIOSH-APPROVED DUST MASK IF DUST IS PRESENT.

VENTILATION : IF DUST IS DETECTED, VENTILATE WORK AREA BY OPENING WINDOWS AND USING EXHAUST FANS.

## SECTION V - PHYSICAL DATA

|  |   |
|--|---|
| BOILING POINT (F) : N/A  | SPECIFIC GRAVITY : N/A                      |
| VAPOR PRESSURE(MMHG): N/A  | PERCENT VOLATILE BY VOLUME (%): <1.0        |
| VAPOR DENSITY(AIR=1): N/A  | EVAPORATION RATE(=1): N/A                   |
| SOLUBILITY IN WATER : 1 lb./gal.                                       | PH(CONCENTRATE) : N/A                       |
|  | PH(USE DILUTION OF 1% SOLUTION) : 12.0-12.5 |
| APPEARANCE AND ODOR : ORANGE, FREE-FLOWING POWDER WITH PINE FRAGRANCE. |   |

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): N/A ( )

FLAMMABLE LIMITS LEL N/A UEL N/A

EXTINGUISHING MEDIA : NON-COMBUSTIBLE SOLID.

HAZARD OF FIRE FIGHTING: NONE

HAZARD OF CORROSION: NONE



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

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ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 03/06/87 ZEP FLASH  
SUPERSEDES: 07/17/87 PRODUCT NUMBER: 0752

## SECTION VII - R E A C T I V I T Y D A T A

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : STRONG ACIDS AND OXIDIZING AGENTS  
POLYMERIZATION : WILL NOT OCCUR  
HAZARDOUS DECOMPOSITION: CARBON DIOXIDE, CARBON MONOXIDE AND TOXIC/CLAYDIL  
FUMES AS OXIDES OF PHOSPHOROUS.

## SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
OBSERVE SAFETY PRECAUTIONS IN SECTIONS 4 & 9 DURING CLEAN-UP. PICK UP SPILLED  
MATERIAL AND PLACE IN A SUITABLE WASTE CONTAINER. WASH AREA THOROUGHLY WITH A  
DETERGENT SOLUTION AND RINSE AREA WELL WITH WATER.

### WASTE DISPOSAL METHOD:

PRODUCT IS NOT CONSIDERED A HAZARDOUS WASTE UNDER RCRA. UNUSABLE MATERIAL  
SHOULD BE DRUMMED AND TAKEN TO A CHEMICAL OR INDUSTRIAL LANDFILL, OR IF PERMIT-  
TED PUT INTO SOLUTION WITH WATER AND FLUSHED INTO A SANITARY SEWER. NEUTRAL-  
IZATION OF PH MAY BE A PREREQUISITE FOR SEWER DISPOSAL. CONSULT LOCAL, STATE,  
AND FEDERAL AGENCIES FOR PROPER METHOD OF DISPOSAL IN YOUR AREA.

RCRA HAZ. WASTE NOS.: N/A

## SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
THIS PRODUCT IS SLIPPERY WHEN MIXED WITH WATER. DO NOT WALK ON AREAS TREATED  
WITH WET PRODUCT UNTIL THEY ARE RINSED WELL AND HAVE DRIED.  
STORE TIGHTLY CLOSED CONTAINER IN DRY AREA AT TEMPERATURES BETWEEN 40 AND 120  
DEGREES F.  
STORE AWAY FROM STRONG ACIDS AND OXIDIZING COMPOUNDS.  
KEEP PRODUCT AWAY FROM SKIN AND EYES.  
KEEP AWAY FROM FOOD AND FOOD PRODUCTS.  
DO NOT BREATHE DUST.  
CLOTHING OR SHOES WHICH BECOME CONTAMINATED WITH SUBSTANCE SHOULD BE REMOVED  
PROMPTLY AND NOT REWORN UNTIL THOROUGHLY CLEANED.

## SECTION X - T R A N S P O R T A T I O N D A T A

DOT PROPER SHIPPING NAME

1 E

DOT HAZARD CLASS: N/A

DOT I.D. NUMBER : N/A

DOT LABEL/PLACARD: NONE

EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED

EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): SODIUM PHOSPHATE,  
TRIBASIC-5000#





ZEP MANUFACTURING COMPANY  
FAST IN MAINTENANCE PRODUCTS

# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION PAGE 1 OF 3

DATE : 04/25/86 ZEP FORMULA 664  
SUPERSEDES: 03/28/86 PRODUCT NUMBER: 0577

## SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404  
P.O. BOX 2015 435-2973, 796-0899, 252-1587, 351-2952, 445-9226  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER .....  
TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

## SECTION II - HAZARDOUS INGREDIENTS

| DESIGNATIONS  | TLV<br>(PPM) | EFFECTS<br>(SEE REVERSE) | % IN<br>PROD. |
|---|--------------|--------------------------|---------------|
| ** KERDENE ** techsene; fuel oil #1; coal oil; CAS#<br>8008-20-6; RTECS# OA5500000; OSHA PEL-N/D  | 500          | IRR CBL                  | 80-90         |
| ** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL **<br>poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-<br>hydroxy; CAS# 9016-45-9; RTECS# MD0900000; OSHA PEL-<br>N/D | N/D          | EIR                      | < 5           |
| ** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL **<br>poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-<br>hydroxy; CAS# 9016-45-9; RTECS# MD905000; OSHA PEL-<br>N/D  | N/D          | EIR                      | < 5           |

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED  
CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

## SECTION III - HEALTH HAZARD DATA

### ACUTE EFFECTS OF OVEREXPOSURE:

THE SOLVENTS IN THIS PRODUCT, WHEN INHALED OR ABSORBED IN HARMFUL QUANTITIES,  
MAY PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY HEADACHE, NAUSEA,  
DIZZINESS AND STUPOR. VAPORS OR SPRAY MISTS MAY BE IRRITATING TO NASAL AND RESP-  
IRATORY TRACT. PRODUCT MAY BE IRRITATING TO SKIN AND EYES RESULTING IN REDNESS,  
ITCHING OR BURNING. INTRODUCTION OF SOLVENTS, AS IN ASPIRATION OF VOMITUS FLUID,  
MAY PRODUCE CHEMICAL PNEUMONIA. EXISTING RESPIRATORY DISORDERS AND SKIN DISEASES  
MAY BE AGGRAVATED BY EXPOSURE.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 2 OF 3

ZE. MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 04/25/86 ZEP FORMULA 664  
SUPERSEDES: 03/28/86 PRODUCT NUMBER: 0577

## SECTION III - HEALTH HAZARD DATA (CONTINUED)

### CHRONIC EFFECTS OF OVEREXPOSURE:

SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH THIS PRODUCT MAY BE MORE  
SUSCEPTIBLE TO IRRITATION, INFECTION, OR DERMITITIS.

ONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

TLV PEL/TLV: 500 PPM

PRIMARY ROUTES OF ENTRY: INH, SKIN.

HAZARD CODES: HEALTH 1; FLAM. 2; REACT. 0; PERS. PROTECT. B ; CHRONIC HAZ. NO

### FIRST AID PROCEDURES:

SKIN : WASH CONTAMINATED SKIN THOROUGHLY WITH SOAP OR A MILD DETERGENT. APPLY A  
SKIN CREAM WITH LANOLIN. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.  
EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OC-  
CASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.  
INHALATION : MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS,  
GET MEDICAL ATTENTION PROMPTLY.  
INGESTION : IF SWALLOWED, DO NOT INDUCE VOMITING. IF VOMITING OCCURS, KEEP HEAD  
BELOW HIP LEVEL. GET EMERGENCY MEDICAL ATTENTION IMMEDIATELY.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : WEAR NEOPRENE, NITRILE, OR NATURAL RUBBER GLOVES OR  
GLOVES WITH PROVEN RESISTANCE TO THE INGREDIENTS LISTED.  
EYE PROTECTION : USE OF TIGHT-FITTING SAFETY GLASSES OR GOGGLES IS STRON-  
GLY RECOMMENDED, ESPECIALLY WHEN WEARING CONTACT LENSES.  
RESPIRATORY PROTECTION: IF VENTILATION IS INADEQUATE, WEAR A PROPERLY FITTING  
MSA OR OSHA-APPROVED RESPIRATOR.  
VENTILATION : VENTILATION SHOULD BE EQUIVALENT TO OUTDOORS. USE EX-  
HAUST FANS AND OPEN WINDOWS IN ENCLOSED SPACES.

## SECTION V - PHYSICAL DATA

|                       |   |                                |           |
|-----------------------|---|--------------------------------|-----------|
| BOILING POINT (F)     | : 214-525F RANGE                                    | SPECIFIC GRAVITY               | : 0.83    |
| VAPOR PRESSURE(MMHG): | 0.4   | PERCENT VOLATILE BY VOLUME (%) | : ~90     |
| VAPOR DENSITY(AIR=1): | N/A   | EVAPORATION RATE(N/A           | =1): SLOW |
| SOLUBILITY IN WATER : | EMULSIFIES  | PH(CONCENTRATE)                | : N/A     |
|                       |   | PH(USE DILUTION OF             | ): N/A    |
| APPEARANCE AND ODOR : | CLEAR, DARK BROWN LIQUID WITH MILD HYDROCARBON ODOR |                                |           |

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): 134F (TCC )  
FLAMMABLE LIMITS LEL 1.0 UEL 8.0  
EXTINGUISHING MEDIA : CO2, FOAM, DRY CHEMICAL  
SPECIAL FIRE FIGHTING: FIRE EXPOSED DRUMS SHOULD BE COOLED WITH STREAM OF WATER.  
USUAL FIRE HAZARDS : NONE



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 3 OF 3

DATE : 04/25/86 ZEP FORMULA 664

SUPERSEDES: 03/28/86 PRODUCT NUMBER: 0577

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

## SECTION VII - REACTIVITY DATA

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : HEAT, OPEN FLAME, SPARK, AND OXIDIZING AGENTS  
POLYMERIZATION : WILL NOT OCCUR  
HAZARDOUS DECOMPOSITION: CARBON DIOXIDE AND CARBON MONOXIDE

## SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
IMMEDIATELY ELIMINATE ALL FLAME, IGNITION AND HIGH-HEAT SOURCES. ABSORB SPILL ON INERT ABSORBENT MATERIAL (eg ZEP-O-ZORB). PICK UP AND PLACE RESIDUE IN A CLEAN, D.O.T. SPECIFICATION CONTAINER FOR DISPOSAL. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE WELL WITH WATER.

WASTE DISPOSAL METHOD:  
LIQUIDS CANNOT BE SENT TO LANDFILLS UNLESS SOLIDIFIED. UNUSABLE PRODUCT AND COLLECTED, SPENT MATERIAL MAY REQUIRE DISPOSAL AS A HAZARDOUS WASTE AT A PERMITTED TREATMENT/STORAGE/DISPOSAL FACILITY. IN MOST STATES HAZARDOUS WASTE IN TOTAL AMOUNTS OF 220 LBS. OR LESS PER MONTH MAY BE DISPOSED OF IN A CHEMICAL OR INDUSTRIAL WASTE LANDFILL. CONSULT LOCAL, STATE, AND FEDERAL AGENCIES FOR PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: D001 (SEE ABOVE)

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
COMBUSTIBLE! STORE AND USE AWAY FROM HEAT, SPARKS, OPEN FLAME, OR ANY SOURCE OF IGNITION.  
POST "NO SMOKING" SIGNS ACCORDING TO LOCAL REGULATIONS FOR COMBUSTIBLE LIQUIDS.  
STORE TIGHTLY CLOSED CONTAINER IN A DRY AREA AT TEMPERATURES BETWEEN 40 - 120 F. DEGREES.  
KEEP PRODUCT AWAY FROM SKIN AND EYES.  
DO NOT BREATHE SPRAY MISTS OR VAPORS.  
CLOTHING OR SHOES WHICH BECOME CONTAMINATED WITH SUBSTANCE SHOULD BE REMOVED PROMPTLY AND NOT REWORN UNTIL THOROUGHLY CLEANED.  
KEEP OUT OF THE REACH OF CHILDREN.

## SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME  
NONE  
DOT HAZARD CLASS: N/A  
DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: NONE  
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED  
E CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): NONE



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 1 OF 3

MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 05/22/86 ZEP REACH  
SUPERSEDES: 04/12/86 PRODUCT NUMBER: 0925

## SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404  
P.O. BOX 2015 435-2973, 996-0899, 252-1587, 351-2952, 445-9226  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER .....  
TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

## SECTION II - HAZARDOUS INGREDIENTS

| DESIGNATIONS   | TLV<br>(PPM) | EFFECTS<br>(SEE REVERSE) | % IN<br>PROD. |
|--|--------------|--------------------------|---------------|
| ** LOW ODOR PARAFFINIC SOLVENT ** odorless base oil;<br>dispersol; CAS# 64742-47-8; RTECS# NONE; OSHA PEL-<br>500 ppm.   | 500          | CNS CBL                  | 30-40         |
| ** NONYLPHENOXYPOLY(ETHYLENEOXY)ETHANOL **<br>poly(oxy-1,2-ethanediyl), alpha-(nonylphenyl)-omega-<br>hydroxy; CAS# 9016-45-9; RTECS# MD905000; OSHA PEL-<br>N/D | N/D          | EIR                      | <5            |

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED  
CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

## SECTION III - HEALTH HAZARD DATA

### ACUTE EFFECTS OF OVEREXPOSURE:

THIS PRODUCT IS NOT SUFFICIENTLY VOLATILE TO CONSTITUTE A SIGNIFICANT INHALATION  
HAZARD. SEVERE OVER-EXPOSURE TO CONCENTRATED VAPOR MAY PRODUCE MILD CENTRAL NER-  
VOUS SYSTEM DEPRESSION, CHARACTERIZED BY HEADACHE AND STUPOR. INTRODUCTION OF  
SOLVENTS, AS IN ASPIRATION OF VOMITUS FLUIDS, MAY PRODUCE CHEMICAL PNEUMONIA.  
THIS PRODUCT CAN BE AN EYE IRRITANT. INFLAMMATION OF EYE TISSUE IS CHARACTERIZED  
BY REDNESS, WATERING, AND/OR ITCHING.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 2 OF 3

MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 05/22/86 ZEP REACH  
SUPERSEDES: 04/12/86 PRODUCT NUMBER: 0925

## SECTION III - HEALTH HAZARD DATA (CONTINUED)

### CHRONIC EFFECTS OF OVEREXPOSURE:

SKIN WHICH IS REPEATEDLY DEFATTED BY CONTACT WITH THIS PRODUCT MAY BE MORE SUSCEPTIBLE TO IRRITATION, INFECTION, OR DERMITITIS.

NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

EST'D PEL/TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: N/A

HMIS CODES: HEALTH 0; FLAM. 0; REACT. 0; PERS. PROTECT. N/A; CHRONIC HAZ. NO

### FIRST AID PROCEDURES:

SKIN : THIS PRODUCT IS FORMULATED FOR USE ON THE SKIN, BUT IT SHOULD BE RINSED OFF WITH WATER.

EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.

INHALE: MOVE EXPOSED PERSON TO FRESH AIR. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION PROMPTLY.

INGEST: IF THIS PRODUCT IS SWALLOWED, DO NOT INDUCE VOMITING. IF VICTIM IS CONSCIOUS GIVE PLENTY OF WATER TO DRINK. GET MEDICAL ATTENTION AT ONCE.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : NO SPECIAL MEASURES ARE REQUIRED.

EYE PROTECTION : NO SPECIAL MEASURES ARE REQUIRED.

RESPIRATORY PROTECTION: NO SPECIAL MEASURES ARE REQUIRED.

VENTILATION : NO SPECIAL MEASURES ARE REQUIRED.

## SECTION V - PHYSICAL DATA

BOILING POINT (F) : N/D

SPECIFIC GRAVITY : 0.92

VAPOR PRESSURE(MMHG): N/D

PERCENT VOLATILE BY VOLUME (%) : 83.5%

VAPOR DENSITY(AIR=1): N/D

EVAPORATION RATE(=1): N/D

SOLUBILITY IN WATER : EMULSIFIES

PH(CONCENTRATE) : 8.0

PH(USE DILUTION OF) : N/A

APPEARANCE AND ODOR : LIGHT GREEN GEL WITH ALMOND FRAGRANCE

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): NONE BELOW 160F (TCC)

FLAMMABLE LIMITS LEL N/D UEL N/D

EXTINGUISHING MEDIA : GEL STRUCTURE INHIBITS COMBUSTIBILITY OF SOLVENT.

SPECIAL FIRE FIGHTING: NONE

UNUSUAL FIRE HAZARDS : PRODUCT WILL NOT FLASH UNLESS HEATED ABOVE 212F.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 3 OF 3

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 05/22/86 ZEP REACH  
SUPERSEDES: 04/12/86 PRODUCT NUMBER: 0925

## SECTION VII - R E A C T I V I T Y D A T A

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : STRONG OXIDIZERS  
POLYMERIZATION : WILL NOT OCCUR  
HAZARDOUS DECOMPOSITION: MAY DECOMPOSE TO FORM TOXIC/CORROSIVE GASES  
IF EXPOSED TO HIGH HEAT.

## SECTION VIII - S P I L L A N D D I S P O S A L P R O C E D U R E S

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
OBSERVE SAFETY PROCEDURES IN SECTION 4 & 9 DURING CLEAN-UP. ABSORB SPILL ON  
INERT ABSORBENT MATERIAL (eg ZEP-O-ZORB). PICK UP AND PLACE RESIDUE IN A  
SUITABLE WASTE CONTAINER. WASH SPILL AREA THOROUGHLY WITH A DETERGENT SOLUTION  
AND RINSE WELL WITH WATER.

### WASTE DISPOSAL METHOD:

LIQUID WASTES ARE NOT PERMITTED IN LANDFILLS. PRODUCT IS NOT CONSIDERED A HAZ-  
ARDOUS WASTE UNDER RCRA. UNUSABLE LIQUID MAY BE ABSORBED ON AN INERT ABSORBENT  
(eg ZEP-O-ZORB), DRUMMED AND TAKEN TO A CHEMICAL OR INDUSTRIAL LANDFILL. CONSULT  
LOCAL, STATE OR FEDERAL AGENCIES FOR PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: N/A

## SECTION IX - S P E C I A L P R E C A U T I O N S

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
STORE TIGHTLY CLOSED CONTAINER IN A DRY AREA AT TEMPERATURES BETWEEN 40 - 120 F.  
DEGREES.  
KEEP PRODUCT OUT OF EYES.  
KEEP OUT OF THE REACH OF CHILDREN.

## SECTION X - T R A N S P O R T A T I O N D A T A

DOT PROPER SHIPPING NAME  
IONE

DOT HAZARD CLASS: N/A

DOT I. D. NUMBER : N/A DOT LABEL/PLACARD: NONE

EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED

EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): NONE



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 1 OF 3

ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 03/13/88 ZEP 45  
SUPERSEDES: 05/25/86 PRODUCT NUMBER: 0145

## SECTION I - EMERGENCY CONTACTS

ZEP MANUFACTURING COMPANY NON-OFFICE HOURS, WEEKENDS, AND HOLIDAYS: AREA CODE 404  
P.O. BOX 2015 435-2973, 996-0899, 252-1587, 351-2952, 445-9226  
ATLANTA, GEORGIA 30301 LOCAL POISON CONTROL CENTER .....  
TELEPHONE (404)352-1680 TRANSPORTATION EMERGENCY  
BETWEEN 8:00A.M. - 5:00P.M. CHEMTREC: TOLL FREE 1-800-424-9300 ALL CALLS RECORDED  
(EASTERN TIME ZONE) DISTRICT OF COLUMBIA (202)483-7616 ALL CALLS RECORDED

## SECTION II - HAZARDOUS INGREDIENTS

| DESIGNATIONS  | TLV<br>(PPM) | EFFECTS<br>(SEE REVERSE) | % IN<br>PROD. |
|---|--------------|--------------------------|---------------|
| ** METHYLENE CHLORIDE ** dichloromethane; methylene<br>dichloride; CAS# 75-09-2; RTECS# PA8050000<br>OSHA PEL-500 ppm.  | 100          | CNS IRR                  | 20-30         |
| ** 1,1,1-TRICHLOROETHANE ** methyl chloroform<br>chloroethane; CAS# 71-55-6; RTECS# KJ2975000<br>OSHA PEL 350ppm  | 350          | IRR CNS                  | 20-30         |
| ** 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE ** fluoro-<br>carbon 113; freon 113; freon tf; CAS# 76-13-1; RTECS#<br>KJ4000000; OSHA PEL 1000 PPM                                      | 1000         | EIR CNS                  | 5-10          |
| ** PARAFFIN OIL ** blend of heavy and light naph-<br>thenic petroleum distillate; CAS#'s 64742-52-5 and<br>64742-53-6; RTECS# NONE; OSHA PEL-N/D; ACGIH OIL MIST<br>LIMIT 5 mg/m3 | N/A          | IRR                      | 10-20         |
| ** MINERAL SEAL OIL ** mineral oil; petrolatum;<br>CAS# 64741-44-2; RTECS# PY8030000; ACGIH/OSHA OIL<br>MIST LIMIT= 5mg/M3;   | N/A          | IRR                      | 10-20         |
| ** AMYL ACETATE ** acetic acid, pentylester (mixed<br>isomers); banana oil; CAS# 53496-15-4; RTECS#<br>AJ2010000; OSHA PEL 100 PPM  | 100          | FBL IRR                  | 5-10          |

SPECIAL NOTE: ADVERSE HEALTH EFFECTS WOULD NOT BE EXPECTED UNDER RECOMMENDED  
CONDITIONS OF USE SO LONG AS PRESCRIBED SAFETY PRECAUTIONS ARE PRACTICED.

## SECTION III - HEALTH HAZARD DATA

### ACUTE EFFECTS OF OVEREXPOSURE:

INHALATION OF VAPOR CAN PRODUCE CENTRAL NERVOUS SYSTEM DEPRESSION CHARACTERIZED  
BY DIZZINESS, HEADACHE, NAUSEA, CARDIAC AND/OR RESPIRATORY DEPRESSION, STUPOR,  
UNCONSCIOUSNESS AND DEATH, IN EXTREME CASES. EXPOSURE TO HIGH CONCENTRATIONS OF  
VAPOR BY DIRECT CONTACT OR INHALATION CAN BE IRRITATING TO MUCOUS MEMBRANES,  
SUCH AS EYES AND UPPER RESPIRATORY TRACT. SEVERE EYE EXPOSURE TO LIQUID CAN  
CAUSE REVERSIBLE EYE DAMAGE. SKIN CONTACT MAY CAUSE A BURNING SENSATION AND  
REDDENING OF THE SKIN. INTRODUCTION OF SOLVENT TO THE LUNGS, AS IN ASPIRATION OF  
VOMITUS FLUIDS, MAY CAUSE CHEMICAL PNEUMONIA. EXPOSURE TO THIS PRODUCT MAY AG-  
GRAVATE EXISTING RESPIRATORY AND CARDIAC CONDITIONS.  
INHALATION OF AEROSOL MIST MAY PRODUCE CHEMICAL PNEUMONIA.



# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

PAGE 2 OF 3

MANUFACTURING COMPANY  
LEADER IN MAINTENANCE PRODUCTS

DATE : 03/13/88 ZEP 45  
SUPERSEDES: 05/25/86 PRODUCT NUMBER: 0145

## SECTION III - HEALTH HAZARD DATA (CONTINUED)

### CHRONIC EFFECTS OF OVEREXPOSURE:

REPEATED OR PROLONGED CONTACT BY INHALATION OR SKIN ABSORPTION MAY PRODUCE LIVER OR KIDNEY DAMAGE OR DAMAGE TO THE CENTRAL NERVOUS SYSTEM (characterized by tingling or numbness in the extremities, blurred vision or confusion). SKIN WHICH IS DEFATTED BY REPEATED EXPOSURE TO SOLVENTS, IS MORE SUSEPTIBLE TO IRRITATION, INFECTION, AND DERMATITIS.

EXPOSURE TO SOME INGREDIENTS IN THIS PRODUCT CAN AGGRAVATE EXISTING LIVER DISEASE OR HEART RHYTHM DISORDERS.

NONE OF THE HAZARDOUS INGREDIENTS ARE LISTED AS CARCINOGENS BY IARC, NTP, & OSHA

EST'D\* PEL/TLV: NOT ESTABLISHED PRIMARY ROUTES OF ENTRY: INH, SKIN.

HMIS CODES: HEALTH 2; FLAM. 1; REACT. 1; PERS. PROTECT. X ; CHRONIC HAZ. YES

### FIRST AID PROCEDURES:

SKIN : WASH CONTAMINATED SKIN THOROUGHLY WITH SOAP OR A MILD DETERGENT. APPLY A SKIN CREAM WITH LANOLIN. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.  
EYES : IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION AT ONCE.  
INHALE: MOVE EXPOSED PERSON TO FRESH AIR AT ONCE. IF BREATHING HAS STOPPED, PERFORM ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.  
INGEST: THIS ROUTE OF EXPOSURE IS NOT LIKELY DUE TO PRODUCT NATURE.

## SECTION IV - SPECIAL PROTECTION INFORMATION

PROTECTIVE CLOTHING : THE USE OF NEOPRENE, NITRILE OR NATURAL RUBBER GLOVES IS STRONGLY RECOMMENDED, ESPECIALLY FOR PROLONGED CONTACT.  
EYE PROTECTION : WEAR SPLASH-PROOF SAFETY GOGGLES ESPECIALLY IF CONTACT LENSES ARE WORN.  
RESPIRATORY PROTECTION: KEEP FACE AWAY FROM SPRAY MIST AND DO NOT BREATHE VAPORS.  
VENTILATION : VENTILATION SHOULD BE EQUAL TO OUTDOORS. USE EXHAUST FANS AND/OR EXHAUST HOOD IN ENCLOSED SPACES.

## SECTION V - PHYSICAL DATA (FOR FILL MATERIAL ONLY)

|                                  |                                       |
|----------------------------------|---------------------------------------|
| BOILING POINT (F) : 105-620      | SPECIFIC GRAVITY : 1.5                |
| VAPOR PRESSURE(MMHG): 122.5      | PERCENT VOLATILE BY VOLUME (%) : 43.7 |
| VAPOR DENSITY(AIR=1): N/D        | EVAPORATION RATE(CCL4 =1): 1.0        |
| SOLUBILITY IN WATER : NEGLIGIBLE | PH(CONCENTRATE) : N/A                 |
|                                  | PH(USE DILUTION OF ) : N/A            |

APPEARANCE AND ODOR : A CLEAR, BROWN OILY LIQUID HAVING A STRONG, SWEET ODOR.

## SECTION VI - FIRE AND EXPLOSION DATA

FLASH POINT(F) (METHOD USED): NOT FLAMMABLE (CSMA)  
FLAMMABLE LIMITS LEL N/A UEL N/A  
EXTINGUISHING MEDIA : CO2, FOAM, DRY CHEMICAL  
SPECIAL FIRE FIGHTING: WEAR SELF-CONTAINED POSITIVE PRES. BREATHING APPARATUS.  
UNUSUAL FIRE HAZARDS : CONCENTRATED VAPOR MAY IGNITE IF EXPOSED TO SPARK.





# MATERIAL SAFETY DATA SHEET

AND SAFE HANDLING AND DISPOSAL INFORMATION

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ZEP MANUFACTURING COMPANY  
FIRST IN MAINTENANCE PRODUCTS

DATE : 03/13/88 ZEP 45  
SUPERSEDES: 05/25/86 PRODUCT NUMBER: 0145

## SECTION VII - REACTIVITY DATA

STABILITY : STABLE  
INCOMPATIBILITY(AVOID) : HEAT, OPEN FLAME, SPARK, AND OXIDIZING AGENTS  
POLYMERIZATION : WILL NOT OCCUR.  
HAZARDOUS DECOMPOSITION: HYDROGEN CHLORIDE, PHOSGENE, AND CHLORINE GAS

## SECTION VIII - SPILL AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:  
OBSERVE SAFETY PRECAUTIONS IN SECTIONS 4 & 9 DURING SPILL CLEAN-UP. LARGE SPILLS ARE UNLIKELY DUE TO PACKAGING. SPILL MAY BE ABSORBED ON AN INERT ABSORBENT (eg ZEP-O-ZORB), PLACED IN A SUITABLE CONTAINER FOR DISPOSAL. WASH AREA THOROUGHLY WITH A DETERGENT SOLUTION AND RINSE WELL WITH WATER.

### WASTE DISPOSAL METHOD:

PRODUCT IS CONSUMED IN USE. DO NOT CRUSH, PUNCTURE OR INCINERATE SPENT CONTAINERS. LARGE NUMBERS OF AEROSOL CONTAINERS MAY REQUIRE HANDLING AS A HAZARDOUS WASTE, BUT IN MOST STATES TOTAL HAZARDOUS WASTE QUANTITIES LESS THAN 220 LBS PER MONTH MAY ALLOW DISPOSAL IN A CHEMICAL OR INDUSTRIAL WASTE LANDFILL. CONSULT LOCAL, STATE AND FEDERAL AGENCIES FOR THE PROPER DISPOSAL METHOD IN YOUR AREA.

RCRA HAZ. WASTE NOS.: F002

## SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN WHEN HANDLING AND STORING:  
DO NOT STORE AT TEMPERATURES ABOVE 120F. OR IN DIRECT SUNLIGHT. DO NOT PUNCTURE OR INCINERATE CONTAINER.  
DO NOT BREATHE SPRAY MISTS OR VAPORS.  
AVOID PROLONGED CONTACT WITH SKIN.  
KEEP PRODUCT OUT OF EYES.  
VAPORS ARE HEAVIER THAN AIR AND WILL ACCUMULATE AT LOW POINTS. VENTILATION SHOULD INCLUDE FLOOR LEVEL EXHAUSTING.  
KEEP OUT OF THE REACH OF CHILDREN.

## SECTION X - TRANSPORTATION DATA

DOT PROPER SHIPPING NAME  
CONSUMER COMMODITY  
DOT HAZARD CLASS: N/A  
DOT I.D. NUMBER : N/A DOT LABEL/PLACARD: ORM-D  
EPA TSCA CHEMICAL INVENTORY - ALL INGREDIENTS ARE LISTED  
EPA CWA 40CFR PART 117 SUBSTANCE(RQ IN A SINGLE CONTAINER): NONE

EFFECTIVE DATE: 5/10/88

I. IDENTIFICATION

PRODUCT NAME: MALCO CLEARCOAT ONE STEP GLAZE WAX

CHEMICAL NAME: N/A CHEMICAL FAMILY: N/A

FORMULA: N/A MOLECULAR WEIGHT: N/A

SYNONYMS: EDP #1023

DEPARTMENT OF HAZARD CLASSIFICATION NOS. CFR 49

TRANSPORTATION: CFR 49 SHIPPING NAME N/A

CAS# N/A CAS NAME

II. PHYSICAL DATA

BOILING POINT: 760mmHg N/A FREEZING POINT N/A

SPECIFIC GRAVITY (H<sub>2</sub>O=1) Density = 58.0#/ft<sup>3</sup> VAPOR PRESSURE AT 20°C N/A

VAPOR DENSITY (air=1) N/A EVAPORATION RATE (Butyl Acetate=1) N/A

PERCENT VOLATILES BY VOLUME < 50 SOLUBILITY IN WATER % BY WT Miscible

APPEARANCE AND ODOR Smooth white liquid with no lumps

III. INGREDIENTS

| MATERIAL              | %    | TLV UNITS | HAZARD | CAS # |
|-----------------------|------|-----------|--------|-------|
| Petroleum Distillates | < 10 | 100 ppm   |        |       |

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (test methods) N/A

FLAMMABLE LIMITS IN AIR % by volume LOWER N/A UPPER N/A

EXTINGUISHING MEDIA Water spray, CO<sub>2</sub>, alcohol foam, dry chemical used in accordance with manufacturers specifications.

SPECIAL FIRE FIGHTING PROCEDURES None

UNUSUAL FIRE & HAZARD EXPLOSION HAZARDS None

V. HEALTH HAZARD DATAEXPOSURE LIMITS TLV, PEL AND SOURCE:ACUTE EFFECTS OF OVEREXPOSURE

SWALLOWING May cause gastrointestinal irritation

SKIN ABSORPTION N/A

INHALATION N/A

SKIN CONTACT May cause irritation

EYE CONTACT May cause irritation, redness, blurred vision, tearing.

Page 2

X

CHRONIC EFFECTS OF OVEREXPOSURE None known

OTHER HEALTH HAZARDS N/A

EMERGENCY & FIRST AID PROCEDURESSWALLOWING Give several glasses of water. DO NOT induce vomiting. If it occurs, give fluids again.

Contact physician immediately. Keep person warm and quiet. Never give anything by mouth to an unconscious person.

SKIN Rinse with waterINHALATION N/AEYES Flush immediately with large quantities of water for at least 15 minutes lifting upper and lower lids occasionally. Contact physician immediately.PRIMARY ROUTE OF ENTRY IngestionNOTE TO PHYSICIANVI. REACTIVITY DATASTABILITYUNSTABLE STABLE X CONDITIONS TO AVOID See belowINCOMPATIBILITY(materials to avoid) Strong oxidizing agentsHAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS N/AHAZARDOUS POLYMERIZATIONMAY OCCUR WILL NOT OCCUR X CONDITIONS TO AVOID See aboveVII. SPILL OR LEAK PROCEDURESSTEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED No significant hazard. Scoop up or pump to tank for re-use/disposal. Rinse area with water.WASTE DISPOSAL METHOD: As above in accordance with local, state and federal regulations.VIII. SPECIAL PROTECTION INFORMATIONRESPIRATORY PROTECTION(specify type) None requiredVENTILATION Do not use in enclosed areaPROTECTIVE GLOVES None required EYE PROTECTION Safety glassesOTHER PROTECTIVE EQUIPMENT None

IX. SPECIAL PRECAUTIONSPRECAUTIONS TO BE TAKEN IN HANDLING AND STORING NoneOTHER PRECAUTIONS NoneX. CARCINOGEN EVALUATION

None of the raw material components of this product are known or suspected to be carcinogens

XI. MSDS PREPARATION INFORMATION

This MSDS was prepared by: MALCOLM ROSENTHAL  
MANAGER TECHNICAL SERVICES  
MALCO PRODUCTS INC.  
361 FAIRVIEW AVE P O BOX 892  
BARBERTON OHIO 44203  
  
216-753-0361 OR 800-321-9435

These numbers are available days, nights, weekends and holidays.

THIS MSDS WAS LAST UPDATED ON: MAY 10, 1988

XII. HMIS RATING

HEALTH: 1 FLAMMABILITY 1 REACTIVITY: 0 PERSONAL PROTECTIVE EQUIPMENT: A

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIALS IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. ADDITIONALLY, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY ABNORMAL USE OF THE MATERIAL, EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. FURTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.



# Welding Products

Division of The BOC Group Inc.  
575 Mountain Avenue  
Murray Hill  
New Jersey 07974  
Telephone: 201-464-8100  
TWX: 710-984-7970

## Material Safety Data Sheet (G)

### PRODUCT NAME

Oxygen  
SYNONYMS  
None  
FORMULA  
O<sub>2</sub>

### CHEMICAL FAMILY

Gas  
HAZARDOUS INGREDIENTS WT. % TLV\*  
Oxygen 100% None

ISSUE DATE  
AND REVISIONS 11/1/84  
CAS NUMBER 7782-44-7

DOT HAZARD CLASS  
Nonflammable Gas  
DOT IDENTIFICATION NUMBER  
UN 1072 & UN 1073  
CHEMTREC 800-424-9300

### PHYSICAL DATA

Boiling Point Liquid Density at Boiling Pt.  
-297°F 0.08  
Vapor Pressure Gas Density  
N/A 0.26  
Solubility in Water Specific Gravity  
.43% 1.105  
Appearance and Odor

Colorless and Odorless Gas or Liquid

### FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) Flammable Limits  
Nonflammable Gas LEL 0 % UEL 0 %  
Extinguishing Media

None

### Special Fire Fighting Procedures

Remove from direct heat or open flame, or keep cool with water fog.  
Oxygen, itself, will not burn, but vigorously supports the combustion of other materials.

A member of the BOC Group



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## Material Safety Data Sheet

### PRODUCT NAME

ACETYLENE  
SYNONYMS  
Ethyne, Ethine  
FORMULA  
C<sub>2</sub>H<sub>2</sub>  
CHEMICAL FAMILY  
Hydrocarbon

HAZARDOUS INGREDIENTS WT. % TLV\*  
Acetylene 100% None (1) Acetone (2) 750 ppm

ISSUE DATE  
AND REVISIONS 11/1/84  
CAS NUMBER 74-86-2

DOT HAZARD CLASS  
Flammable Gas  
DOT IDENTIFICATION NUMBER  
UN 1001  
CHEMTREC 800-424-9300

(1) Simple Asphyxiant, ACGIH 1984 ed.  
(2) Solution Medium 40% Total Wt. of Cylinder

### PHYSICAL DATA

Boiling Point Liquid Density at Boiling Pt.  
-118.5°F (Sublimes) 1.173 GM/L @ 0°C  
Vapor Pressure Gas Density  
250 @ 70°F 0.108 LB/CFT.  
Solubility in Water Specific Gravity  
Slight .91  
Appearance and Odor

Colorless Gas with Sweet Garlic Odor

### FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used) Flammable Limits  
0°F (Closed Cup) LEL 2.5 % UEL 80.0 %  
Extinguishing Media

Water Fog

### Special Fire Fighting Procedures

Do not extinguish flame. If flame is extinguished before supply is exhausted there is serious danger of explosion from reignition. Remove or wet down all cylinders exposed to direct heat or open flame.